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Otilia Clipa (ed.)

# Challenges in Education

Policies, Practice and Research



PETER LANG

Otilia Clipa (ed.)

## Challenges in Education

This book contains ten state-of-the-art articles about current challenges in education. They go back to the international conference “Teacher Education for Promoting Well-Being in Schools” (Ștefan cel Mare University of Suceava / Romania, July 2020), organized by the Association for Teacher Education in Europe. The articles are concerned with the following: diversity in special education; research through photovoice; sentiments, attitudes and concerns about inclusive education of pre-primary education students; teacher education; new trends in education; influence of the COVID 19 pandemic on education; digital competences of teachers.

### The Editor

Otilia Clipa is an assistant professor at the Faculty of Science of Education, Ștefan cel Mare University of Suceava, Romania. Her qualifications include grades in education and psychology as well as integrated pedagogy. Her PhD thesis dealt with evaluation in higher education. She published or coordinated more than 15 books and beyond 60 articles in international journals. Her areas of interest include early childhood education, preschool and primary education, assessment in education, teacher education and didactics for university teachers.

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## Policies, Practice and Research

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# Contents

*Laura Nicoleta Bochiș, Carmen Alina Popa, Gianina-Estera Petre,  
Simona Laurian Fitzgerald, Adina Vesa*

Chapter 1 Exploring Diversity in Special Education: A Participatory  
Action Research with Photovoice ..... 7

*Mariana Cabanová, Marián Trnka*

Chapter 2 Sentiments, Attitudes and Concerns about Inclusive Education  
of Pre-Primary Education Students ..... 33

*Otilia Clipa, Ancuța Vieriu (Gontariu)*

Chapter 3 Leadership and Learning Style in Educational Management ..... 55

*Clapona-Simona Anton, Otilia Clipa, Liliana Mățã*

Chapter 4 Efficiency of the Use of ICT in Teaching Activities ..... 73

*Erika Kruger, Lynette Jacobs*

Chapter 5 Teachers' Lived Experience of Official Employee Workplace  
Well-Being Support and Programmes ..... 97

*Andreea Petruș, Lavinia Cheie, Laura Visu-Petra*

Chapter 6 The Relationship between Test Anxiety and Math Anxiety in  
Primary School Children ..... 119

*Emilia Restiglian*

Chapter 7 Engaging Pupils in Assessment Processes: A Peer Review  
Model ..... 133

*Myo Sandar*

Chapter 8 Pilot Study on Enhancing Collaborative Learning of Teachers  
for Professional Development in Myanmar Schools ..... 149

*Maria-Doina Schipor*

Chapter 9 Improving Teacher Motivation – A “What If” Insight ..... 165

*Adrian Hatos, Mirela Lăcrămioara Cosma, Otilia Clipa*

Chapter 10 The importance of teacher training from the perspective of  
digital skills ..... 177

**List of contributors** ..... 191





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## **Chapter 1 Exploring Diversity in Special Education: A Participatory Action Research with Photovoice**

**Abstract** Organizing learning activities wherein students could be actively involved in education through investigation can have benefits for professional life in inclusive education. This chapter shows the results of research conducted to help first MEd students develop a deeper understanding of the benefits of diversity in special education. The study is based upon the Empowerment Education framework of Freire (1970) and it used a mixed intra-paradigm research design of Participatory Action Research and Photovoice. A class of 37 MEd students trained in using Photovoice accepted to participate in this study. They were organized into ten groups, each group receiving a specific theme under the main topic: Diversity in Inclusive Education. Data were collected through photos, observations, and interviews. Data were analyzed based on participants' photo essay activity. The results of Group 3, consisting of four MEd student, are presented in this study under eight themes identified by the participants as (1) relationships, (2) fun school activities, (3) moments of relaxation, (4) behavioral stereotypes in controlled environments, (5) didactic strategies adapted to the needs of children with disabilities, (6) the educational climate based on support in socio-emotional and personal development, (7) educational projects carried out with students with special education needs, and (8) practical activities. By having MEd students participate in this Participatory Action Research, the authors aimed to generate a positive change in MEd students' attitudes towards diverse classrooms. The Photovoice research design helped to disseminate the results to raise awareness of the local community and decision-making entities.

**Keywords:** qualitative data analysis, Photovoice, interview, special educational requirements, student voice.

### **1.1. Introduction**

Diversity is defined as “differences between individuals on any attribute that may lead to the perception that another person is different from self” (van Knippenberg, De Dreu, & Homan, 2004, p. 1008). In most specialized fields, the

elements by which diversity is addressed include concepts such as race, language, culture, religion, gender, disability, sexual orientation, socio-economic status, and geographical location (Flavey, Givner, & Kimm, 1995; Schoenfeld, 2014).

In the context of learning, Ashman and Elkins (2005) attaches a broader meaning to the concept of diversity incorporating talent, gender, social environment, different learning rhythms and styles, behavioral manifestations, as well as cultural differences, linguistic differences, and disability. Graham (2007, as cited in Petriwskyj, 2010) believes that diversity in children's groups has changed in approach, building on the varied meanings of the concept of inclusion. That is why it is not yet known how teachers understand diversity and inclusion or how they act on the basis of emerging ideas (Petriwskyj, 2010). Schuelka, Johnstone, Thomas, and Artiles (2019) emphasize the idea that inclusive education must take into account the diversity of students, disciplines, and the learning context.

The diverse needs of growth, development, or support of students with intellectual disabilities in special and/or inclusive education classes require a differentiated and individualized approach to teaching and, at the same time, a good ability to work together in case teams to identify the best solutions in learning activities to achieve school progress. The importance of studying diversity in the classes of pupils with CES in special education is apparent in the applicative nature of the research aims of the master's students to display presence of diversity classes that include students with special education needs.

In Romania, in accordance with the provisions of Article 51 (1) (a) and (b) of Regulation (EEC) No 2081/92 (2) of the Law on National Education No. 1/2011 and in accordance with Judgment No. 564 of August 4, 2017, on how to grant the rights of children with special educational requirements in the pre-university education system, students with CES are oriented in mainstream or special education, depending on the diagnosis/deficiency and its degree as follows:

- a) children with CES integrated into mainstream education, who follow the curriculum of mainstream education.
- b) children with CES integrated into special classes/groups organized in mainstream education;
- c) children with SPECIAL Education CES;
- d) children with CES requiring hospital stays of more than four weeks for which groups or classes are organized, as appropriate, within the health facility in which they are admitted;
- e) children with CES who, for medical reasons or because of a disability, are non-displaceable, for whom home schooling is organized for a specified period.

The report posted on the Bihor County Inspectorate's website for the 2017–2018 school year states that 1,399 pupils with special educational requirements are enrolled in the Bihor special education, 53 more than in the previous school year, which highlights a slight increase in the number of pupils with schooled CES, the tendency to increase the number of pupils with CES being in line with the data illustrated in the national reports, from several countries. Thus, one of the challenges that education specialists should respond to is to be consistently involved in solving the diverse difficulties faced by teachers in pre-university education in the classroom (Popa & Bochiș, 2016).

From Jelas's point of view (2010), regardless of whether future teachers will practice in traditional or special education, they must be formed together at the level of university studies in such a way that they can achieve the integration and inclusion of pupils with special educational requirements in classes. In Romania, the training at the level of undergraduate studies of future teachers who will work with pre-school or primary school students from traditional, inclusive, and special education, is carried out within the framework of two separate curricula: Primary and Pre-school Education Pedagogy and Special Psychopedagogy, respectively. Sales (2006) emphasizes the need to prepare students enrolled in education science programs for a fair and positive approach to school diversity and inclusion. This, from Arnaiz's point of view (2003), means not only assimilating a volume of expertise but also training skills necessary to achieve inclusive education. Given that students are aware of the importance of values such as equality, compassion, collaboration, and respect for cultural diversity and respect for human rights, they would be more likely to apply them later in the classroom (Morris, 2005; Noddings, 2006; Thomazet, 2009).

At the University of Oradea, at the Faculty of Education Sciences, at the level of the master's studies, the educational offer is part of the integrated education study program for primary and pre-school education, in order to meet the training needs of graduates and teachers working in classes in inclusive or special schools. In this program, in the discipline of Teaching Strategies in support of the integration of children with CES, we have fostered the framework of collaboration by groups of master students, on aspects related to identifying the strengths and weaknesses of the educational process in educational institutions, with students or preschoolers with special educational requirements, using the Photovoice method. The Photovoice method is a participatory research method that combines photography and group activity giving participants the opportunity to record and reflect on the surrounding reality (Lal et al., 2012).

In the literature, the role of participatory research methods is presented by different authors. Thus, after Catalani and Minkler (2010), participant projects are

associated with (a) long-standing relationships between researchers and community, (b) intensive training to build community capacity, (c) an iterative cycle of community documentation and critical dialogue, and (d) multilevel outcomes including engaging community members in action and advocacy, enhancing understanding of community needs and assets, and facilitating individual empowerment. As regards the use of the Photovoice method, Wang and Burris (1997) point out that it enables the following three types of objectives to be achieved: (a) recording and reflecting on community strengths and concerns, (b) promoting critical dialogue and knowledge, and (c) reaching policymakers.

These skills we consider to be necessary to be developed by students or master's students, but despite new trends in education reform, teaching and learning in universities remains teacher-centered, curriculum-centered, or both, and students are rarely actively involved in courses (Popa et al., 2018). In the process of carrying out this research, we created the context in which the master students engaged in efforts to know the reality of the state of education, reflect personally, and dialogue with others regarding the identification of the strengths and weaknesses of the way of organizing the education system, the conduct of the educational process, the policies and legislative provisions in force, etc., on the basis of an own investigative and documentation approach, plus the ability to group with other colleagues and engage in actions that produce qualitative changes in education.

## 1.2. Literature review

With regard to the use of the Photovoice method in order to contribute to the production of a change in education, we have identified few studies in the literature. Meyer and Kroeger (2005) outline aspects of how Photovoice can serve teachers in creating a critical approach in educational institutions/classes, which can bring about a change or transformation conducive to both teacher and students. Kroeger et al. (2012) believe that at the level of university studies, future teachers must be prepared to successfully achieve the inclusion of students with CES in classrooms, proposing an applicative approach that involves having students from different study programs and different specialists work together. Co-teaching and Photovoice methods were used in this process, without providing much further details on how the Photovoice method was implemented.

In the meta-analysis carried out by Lal et al. (2012), taking into account 351 publications, the authors revealed, according to the study's purpose, that the majority of research conducted and published in the literature used the

Photovoice method to promote health, highlighting in few of these the potential implications of using the method among people with disabilities. The authors identify that only 24 % of all research under analysis is studies that consider the aspects of promoting health in people with chronic diseases, intellectual, physical, or mental health disabilities, thus stressing that it remains an open area for future research. Stanley (2003, as cited in Jurkowski, 2008) states that photography was used to improve the level of employment and self-determination of people with disabilities in the fields of art and design. Photography has previously been used for engagement and self-empowerment among people with disabilities in the field of art and design.

Referring to the beginnings of the use of the Photovoice method, Wass et al. (2020) stated that it was introduced for research in areas such as palliative care (healthcare contexts) and early education and was subsequently used in various contexts and for different purposes, such as exploring the impact of domestic violence or homelessness.

The study by Wass et al. (2020) involved 33 students to explore their beliefs about effective teaching-learning methods in the university, using several research methods, including Photovoice. Most student participants gave high ratings for the use of the Photovoice method in the study, while some described the method as restrictive and sometimes challenging.

Our research can arouse the interest of other researchers in using an active participatory method such as Photovoice in investigating aspects of diversity and the success of integrating students with intellectual disabilities into special education classes. In this study, the modality of the exposure of information in the research methodology part may provide other interested researchers with a model on how to utilize the Photovoice method in practice in the field of education and special education, but less data related to highlighting the impact of the results achieved on the community, due to the impossibility of completing the final stages of the study in the context given of the pandemic in 2020. The study highlights the strengths identified in the process of integrating students with intellectual disabilities into special education, pointing out eight broad categories of topics in which the photos taken were framed. In the results of the study, from the analysis of photographs, student reports, and the interview, a positive picture was illustrated on how master's students captured diversity in classes of pupils in special education, as well as the possibilities of recovery and intervention in school or extracurricular activities.

### **1.3. Research questions/aims of the research**

Two research questions guided this study:

1. What are the MEd students' experiences regarding the strengths of inclusive education?
2. What are the MEd students' recommendations regarding the weaknesses of inclusive education?

### **1.4. Research methods**

The present chapter used qualitative research methodology as the aim was to understand the phenomenon of inclusive education through the participants' perspective and experiences (Clark & Creswell, 2015; Glasser, 2006; Merriam & Tisdell, 2016, , by following specific stages and patterns in research (Saldaña, 2015), and exploring the topic of inclusive education in an in-depth way (Yin, 2016).

An intra-paradigm mixed research design was applied (O'Reilly & Kiyimba, 2015), of action research and Photovoice. The type of action research was Participatory Action Research (PAR) goals of which are (a) to improve the quality of people's organizations, communities, and family lives; and (b) to empower individuals in schools, systems of education, and school communities (Creswell, 2012). By using PAR, the study aimed to empower MEd students in their experiences and practices regarding special education. The second research design was Photovoice. The aims of Photovoice are (a) to record and reflect on positive/negative aspects of a community, (b) to promote dialog on important issues, and (c) to reach policymakers (Wang & Burris, 1997). The three goals of Photovoice were followed in this study, together with the goals of PAR.

#### **1.4.1. Procedure**

The study took place from October 2019 to February 2020. Data collection was conducted by following the Photovoice steps used by Wang et al. (1998). We describe how each step was applied in this study, the sampling procedure, data collection, and data analysis.

#### **1.4.2. Preliminaries**

The first aspect to address in this study was to contextualize the problem. The goal was to give a voice to the MEd students in making known the strengths and weaknesses of inclusive education and to share their experiences on it.

The second aspect was to state the objectives. The main objective was to place students in the context of inclusive education for observing the strengths and weaknesses of it and to propose practical interventions of properly addressing diversity in an inclusive education class. As such, they may learn during academic training what to expect in their profession (Petre et al., 2019a).

The third aspect was to select the site, and *the* fourth to obtain consent from the policymakers. A proposal was written and submitted to the Education Department of the University of Oradea, County School Inspectorate Bihor, and 13 selected schools from Bihor County. The schools were selected by two criteria (a) having registered students with special needs, and (b) proximity regarding MEd students' home residence. After obtaining permission, the fifth aspect was to select the participants. A cohort of 37 first-year MEd students from the academic program, *Inclusive Education for Preschool and Primary School*, participated in this study. They were organized into ten groups, each group having a different topic to investigate inclusive education. Choosing the methodology, presented in the previous section, was the sixth aspect followed by the seventh aspect of presenting to the participants the informed consent and obtaining their written consent. All 37 participants accepted to participate in the study and signed the written consent.

### 1.4.3. Implementing method and data analysis

This phase of the study involved several steps (Wang et al., 1998). We describe below how each step was implemented. As such, other researchers may replicate the study in their context, making contextual adjustments, if necessary.

- *Orientation regarding the concept and the methodology of Photovoice.* The MEd students were introduced in the concept and the methodology of Photovoice. They participated in a video training in Photovoice, in October 2019.
- *Photography training.* The participants were oriented on how to take photos and how to ensure ethical issues during this process. They learned that they would need the written consent of the parents of the students from the classes they will go to conduct the Photovoice, as the students were minor.
- *Theming.* The process of taking pictures followed in two phases, to respond to the questions: (a) What are the strengths of inclusive education, and (b) What can be improved in inclusive education?
- *Time for taking pictures.* For the first phase, to respond to the first question, the participants had eight weeks to take photos in the assigned schools (Tab. 1). Participants took as many pictures as they wanted and selected the three most relevant for the theme of the group.

**Tab. 1:** *School selection and research topics by groups*

Research Topic	Groups	School
Diversity in the class with the majority of students from the Roma ethnic group	Group 1 (4 students)	Technological High School, Petri Mor, Nuşfalău, Sălaj
	Group 4 (6 students)	Primary School no. 2, Tăşad-Goila, Drăgeşti Primary School no. 2, Talpoş Primary School no. 1, Ghighişeni
	Group 8 (5 students)	Primary School no. 2, Nufăr, Rontău
Diversity in the kindergarten class with the majority of students from the Roma ethnic group	Group 9 (3 students)	Secondary School no. 1, Aştileu
Diversity in simultaneous class with majority of students from the Roma ethnic group	Group 2 (4 students)	Secondary School Ovidiu Drimba, Lugaşu de Jos, Urvind
Diversity in simultaneous class with integrated Roma students	Group 5 (3 students)	Secondary School no. 1, Olcea
Diversity in an inclusive kindergarten class with integrated students from Roma ethnic group	Group 6 (1 student)	Kindergarten no. 9, Satu Mare
Diversity in inclusive class with integrated SENs students	Group 7 (5 students)	Secondary School no. 16, Oradea
	Group 10 (2 students)	Secondary School no. 1, Bulz, Remeţi
Diversity in special education class of students with intellectual disabilities	Group 3 (4 students)	C.S.E.I. Orizont, Oradea C.S.E.I. no. 1, Popeşti

- *Facilitation of group discussion.* The group of researchers facilitated discussions for each group of participants. In each group, the MEd students presented their selected photos.
- *Critical reflection and dialogue.* The participants presented in their groups the stories behind each photo. The SHOWED framework (Wallerstein & Bernstein, 1988) guided this step, the participants presenting each photo, by responding to the six questions: What do you see here? What's really happening here? How does this relate to our lives? Why does this problem or strength exist? How can we become empowered by this? What can we do about this? The student participants wrote the stories for each photo by responding to these questions. As such, researchers obtain data of a deeper understanding



of experiences regarding the topic of investigation when participants write down the stories (Petre, 2019; Shulman & Shulman, 2007 ).

- *Codifying or grouping photos by themes through photo essay.* The participants grouped the photos from the first phase of the Photovoice by themes (Rosario, Domocmat, & Oniashvili, 2016). They decided on the names of the themes, being supervised in this process by the researchers' group. As the second phase of Photovoice overlapped with the pandemic of COVID-19, and the schools were closed, it was not possible to put it in the scene. This stage will take place when the schools will be open, and the health regulations will allow it.

#### 1.4.4. Disseminating the findings

Three modalities were chosen for disseminating the findings of this research. First, the photo exhibit planned to take place at the University from where the group of researchers pertained. Due to the pandemic of COVID-19, it was not possible to organize this photo exhibit. Second, the study was presented at the ATEE 2020 Winter Conference, Suceava, Romania, on July 6–8, 2020. Third, we make the findings known through the present article.

**Advocating Policy.** This phase of Photovoice is organized as such the policymakers are informed about the study and the results of the study and are invited to make decisions to improve the situation presented. Due to the COVID-19 pandemic, the last phase of inviting the policymakers to the photo exhibit did not take place. However, the photo exhibit will be organized as soon as the situation and health regulations would allow it.

**Sources of Data.** The main source of data compressed the photos taken by the participants in their allocated schools. Additionally, MEd students conducted observations and interviews with the teachers of the selected classes. To make the process of data collection clear and to ensure the trustworthiness of the study, triangulation matrix of data sources necessary to respond to each research question was developed (Tab. 2).

**Tab. 2:** *Triangulation matrix of data collection methods*

<b>Research Questions</b>	<b>Source 1</b>	<b>Source 2</b>	<b>Source 3</b>	<b>Source 4</b>
1. What are the MEd students' experiences regarding the strengths of inclusive education?	Photos	Observations	Interviews with teachers	Literature
2. What are the MEd students' recommendations regarding the weaknesses of inclusive education?	Photos	Observations	Interviews with teachers	Literature

### 1.5. Results

As the present study is extended, covering different aspects under the main topic: *Diversity in Inclusive Education*, the findings are presented by topics of the ten groups of MEd students involved in the study. In the present study, we present the results of Group 3, who explored the topic: *Diversity in special education class of students with intellectual disabilities*. The four participants from this group identified the strengths of the class with special educational needs and grouped them under eight themes (Fig. 1).

T1. Relationships	T2. Fun school activities	T3. Momentsof relaxation	T4. Behavioralstereotypes in controlled environments
T5. Teachingstrategies adapted to the needs of children with disabilities	T6. Educationalclimate based on support in socio-emotional and personal development	T7. Educationalprojects with students with special educational needs	T8. Practical activities

Fig. 1: *The Strengths of Special Education Classroom*

#### 1.5.1. Theme 1: Relationships



P1, Photo #1.3, The older colleague

Relationships have an important contribution to special education, being identified by the participants as a strength. The role model of older colleagues is a reality, special education may use as an advantage when organizing learning. This finding was captured by Participant 1 in the following image and story: “The little ones were simply fascinated by that the big student playing with them with a balloon and showing them various tricks. As a student, I would like to look more often with the same admiration at another colleague of mine, just as these primary school students look at their older colleague.... I think we could involve the older students more in different actions together with their younger colleagues because, as we can see in this photo, the little ones are simply absorbed by him and look at him with admiration, curiosity, and interest. As students, I think we should always find role models to look at them with admiration” (P1, Photo #1.3, *The older colleague*).

### 1.5.2. Theme 2: Fun school activities



P1, Photo #2.6, Play with me!

Organizing funny learning activities attract students with special needs. It may remove the wall of low self-confidence of their internal world in interaction with the education environment. Dedicated teachers use such involving activities. One participant captured the next photo and wrote its story: “I chose to put

this picture because it captures two of the seventh-grade students, students with severe behavioural disorders, engaged in an activity that they initially refused. I think it is important...to understand that we are not superior to our students no matter how they are we are all equal .... When we release the child lying inside each one and we know how to put ourselves in the minds of our students with respect and appreciation for them, then the school will be a better place. We have a moral duty to raise students, to stimulate them, and to help them become confident, and emotionally balanced adults"(P1, Photo #2.6, *Play with me!*).

### 1.5.3. Theme 3: Moments of relaxation



P1, Photo #3.2, 10 Minutes

Quiet time is appreciated in inclusive schools yet, pretty rare. It is like an oasis in the desert. However, when such time takes place, the recipients are aware of and thankful for the situation. A MEd student emphasized this aspect in the next story. "It was a good day, quiet without major incidents, the students were quite calm and quiet, compared to most days when there is real chaos, everyone runs from side to side, there are quarrels, nerves, discussions between them largely due to the diversity of the school.... When we talk about students from a special school, things get complicated due to their deficiencies. Based on a background of frustration they tend to be aggressive, with misunderstandings towards each other, and manifesting a lack of empathy. I think it is important that we, as future

teachers, but not only, pay more attention to the needs of those around us, give each other space and understanding each need, and not always taking everything seriously “(P1. Photo #3.2, *10 Minutes*).

#### 1.5.4. Theme 4: Behavioral stereotypes in controlled environments



P3, Photo #4.8, Infinite blue

Inclusive education is about creating a learning environment wherein students feel accepted, supported, and safe, no matter their special needs. Their behaviors are modelled and educated when it is assured a balanced emotional and physical atmosphere. A sensitive story is presented by one participant: “In this picture we see a student playing with a balloon. This picture was taken about half an hour after this student with autism from 8th grade had a mild epileptic seizure. Sometimes in life are factors that are not necessarily related to us and our desires, and we have to deal with them. There are difficulties, problems, troubles, but it is important to get up and continue on our way. It is always good to look to the future, to the blue sky, and to know that if we fall, we will rise and continue to walk with hope. As a future teacher, I can learn a lot from my students. The most

important thing I've learned so far is that, no matter how hard life is, sometimes you have to get up and look ahead with hope" (P3, Photo #4.8, *Infinite blue*).

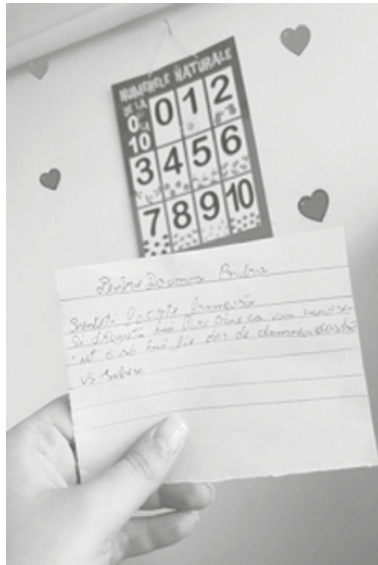
### 1.5.5. Theme 5: Teaching strategies adapted to the needs of children with disabilities



P2, Photo #5.1, Friendship in pictures

In inclusive education, teaching strategies can make a difference in the success or lack of success of the students in learning activities. Teachers have the responsibility to plan and apply the most suitable teaching strategies, according to the students' special needs, even when teaching them values such as friendship. One participant captured how teachers in special education successfully addressed this aspect in the classroom: "Children with intellectual disabilities discovered who found shelter in an abandoned pot, while learning to recognize animals, to count and, first of all, to understand what true friendship is, at a Reading-Writing-Communication class.... It is more difficult for students with disabilities to develop friendships... We can teach children with disabilities that friendship is accompanied by facts and feelings, and that regardless of status, race, ethnicity we, as humans, are responsible for developing friendship" (P2, Photo #5.1, *Friendship in pictures*).

### 1.5.6. Theme 6: Educational climate based on support in socio-emotional and personal development



P1, Photo #1.1, Reward

Students in special education respond with affectivity when they receive emotional support. It may look only as an advantage to them when teachers give unconditional emotional support. However, this reward is paying forward, as it is returning to the teacher but also to those manifesting care and positive emotional support. One MEd student benefitted from this return of affective feelings and captured it in the next photo and story. “In this picture is a handwritten note I received from a student before the winter break. I think it’s hard to explain what really happens in this photo because it’s a lot of work, emotions, desire, sacrifice to reach this relationship with the special students I met in practice. Looking at this post I realized that sometimes small but constant gestures make a difference” (P1, Photo #1.1, *Reward*).

### 1.5.7. Theme 7: Educational projects with students with special educational needs



P2 Photo #7.4, Hearts for hearts

Extracurricular social activities are strength in special education, identified in the present study. When organizing and participating in such events, students with special needs learn that they are part of a group other people care about. They develop a feeling of togetherness with those, part of their community, or sharing the same special needs. Such a positive aspect was highlighted by a participant when she has written down the story behind the next picture: “We are witnessing an activity within an inter-county project entitled *Hearts for Hearts*, and held annually on the *International Day of Persons with Disabilities*, on December 3. A teacher and a visually impaired student are preparing to launch balloons with messages suggestive on friendship for this special day, at 1 Decembrie Park, Oradea.... I think we can sensitize people to be more tolerant, to accept these children with disabilities, and for modern society to be prepared to receive and integrate them... Don't be indifferent! Show that you care about your fellow man! it would be the perfect slogan for every student who would like to get involved in the smooth running of such activities “ (P2, Photo #7.4, *Hearts for Hearts*).



### 1.5.8. Theme 8: Practical activities



P3 Photo #8.3, Hardworking and creative

In special education, practical activities have an important role in learning. Children are taught to develop their practical skills through a diversity of learning activities. Teachers interested in developing students' practical skills look for attractive and affordable activities. As a result, students with special needs are actively involved in learning activities, like one participant of this study emphasized: "The photo was captured during a class in the *Technologies* area, the Handicap Discipline, in which students smash corn to use it for various decorative objects.... In *Technology* classes you can opt for teamwork because for children with disabilities it is very important to develop their language, thinking, and psychomotor skills. And teamwork has always benefitted the psycho-intellectual development of students with disabilities.... The activities that are done together with these children with disabilities start from the soul, empathy, and professionalism" (P3, Photo #8.3, *Hardworking and creative*).

## 1.6. Discussion

Armstrong (2012) advocates that diversity anywhere in the world is the norm, not the exception. Additionally, he believes that diversity is what gives the world strength and creativity. Armstrong relates that in the biological world, our environments depend on deep diversity in order to sustain life. For example, when something in our environment becomes extinct, Armstrong believes it usually causes problems for other aspects on the environment. In other words, we depend on diversity for the quality of life most people want. In schools, the environment is made up of people. Armstrong believes that the diversity of students is not only normal, but essential to the quality of school life. This is true whether we are discussing gender, race, religion, culture, talents, abilities, or intelligence. Having a diverse population of anything is normal, what is abnormal is the state where everyone is the same.

Sir Ken Robinson (2017) tells educators that schools have been dismissing the talents and skills of millions of students each year by thinking of them as being abnormal people who are disabled and, thus, less than the rest. We can no longer, in his view, afford to lose the talents of so many young people, who have the potential to bring the world joy and creativity and goodness. These students, according to Armstrong (2012) and Robinson (2017), are not disabled people, they are normal, regular people who are smart, talented, and who love and are loved by other people. People deserve to be judged by who they are and what they can do, not by who they are not and what they cannot do. According to Armstrong, these students, like all students, should be taught from their strengths not their weaknesses.

As we review the themes that our students developed, as you read them again, think about who should not be taught in these ways. Do not all students deserve and need the same themes in their classrooms everywhere from preschool to graduate school? Inclusion, under these ideas, is not a system that differentiates only based on deficits, in this scenario, we believe that teaching and learning should be based at least as much on the strength of students as on their other needs. All students can and should be successful in school – ALL students.

Here is the list from our students:

1. Set up schools so that all students develop and maintain great relationships with their peers and with their teachers. Vygotsky (1970) explained that learning is a social experience. All people need to meet their love and belonging needs in school (Glasser, 1998; Fitzgerald & Laurian-Fitzgerald, 2013).

2. Students (and teachers) should enjoy the teaching and learning process. Educators must include fun in their teaching and learning experience (Laurian-Fitzgerald & Fitzgerald, 2020).
3. Students need time to relax. According to Sousa (2017), students should have regular breaks during the school day to relax, so they can concentrate more when they are working (De Boer, Pijl & Minnaert., 2010; Clipa & Mata, 2020).
4. Students should work in an environment that is safe and caring. Glasser (2000) relates how students need to believe their peers and their teachers are about them, and, that if something does happen, their school will take care of them. Sousa (2017) discusses the importance of feeling safe and its positive effects on learning.
5. Teaching strategies adapted to the needs of children. This is obvious for students with special needs, but it is just important for the needs of all children. Other students struggle who do not have identified special education needs, students are not all readers or writers, or language people, but they all can learn. If teachers employ universal design principals (Novak, 2016), then more and more students will feel comfortable in their learning.
6. Develop a school environment that supports the social-emotional and personal development of students. According to the Collaborative for Academic, Social, and Emotional Learning (SEL) (CASEL, 2020), the personal social-emotional well-being of students is integral for educational and personal achievement. A positive SEL school environment is important for all students.
7. Educational projects are important to deep learning. The critical thinking, problem-solving, and creative skills necessary for future success cannot be accomplished and learned unless students have practice and teacher and peer feedback (Kraus & Boss, 2013). All students should work in teams to tackle difficult and realistic world issues. If the job of teachers is to move students from dependent learners to become independent learners, then teachers should continually look for projects and other ways to give students increasing responsibility for their own learning.
8. Students should work on practical activities. One goal of education is to prepare students for their lives when they leave school. In order to be ready for life after school, students should be working on real-life issues while they are in school. According to Robinson (2017), we cannot expect students to be told to be quiet and to work in isolation for 12 years, and then expect them to tackle real-life issues for the first time only after they graduate from school.

The good news from the results from the student participants in this study is that they have discovered ideas that are great for students with special education needs and they are great for all students. Of course, this might mean that educators might have to rethink what and how we teach from preschool to graduate school. One of the lessons from the worldwide pandemic, for educators, might be that we can no longer accept the gaps that presently exist all around the world in education. Failure and undereducation is unacceptable, and maybe it is time to rid our schools of the old excuses as to why they exist. Our students have given us a list of eight items to substitute for any past excuses for student failure. They have created eight ways to create and implement student-centered, success-based teaching and learning. Additionally, studies should gather the stories of the most important people in this process – the students in their classrooms.

### **1.7. Limitations**

This is one small qualitative study and the results of this study need to be replicated in different ways and with larger participant pools. Educators should not generalize these results without further study. In this study, the data is incomplete in that the time frame was limited, and the data pool was small. More complete stories should be generated by educators around the world to add depth and breadth to this beginning story. Studies should be implemented to gather the stories of the most important people in this process – the classroom students. The stories of all kinds of different students need telling students with special needs, immigrant students, students from different races, students of poverty and food insecurity, students of childhood adversities, bullied students, homeless students, and so forth. Diversity in all of its forms should be studied. Finally, education is supposed to be the great equalizer, and more work should be done to ensure schools are anti-racist, anti-misogynistic, and anti-biased related to religion, sexual orientation, cultures, and poverty. There is much to do, and this study is one small piece of that process.

### **1.8. Recommendation for further research**

To move education forward, there should be more research connected to the concepts for this study and other related ideas. We believe there should be more research related to inclusionary practices. Studies might review ideas to help students with special education needs, exceptionality needs, ELL needs, cultural needs, and the entire spectrum for freedom needs (e.g., immigration, racism, genderism). There is another area of diversity research that is important and

that involves the social nature of our world and of schools. Research into how to help students become positive world citizens is important to the future of our world. This research should not be political in nature but should emanate from a sociological and/or psychological perspective. One important question might be something like: How do schools help create adults who celebrate diversity? Another question might be something like, How do schools encourage anti-racism? These ideas are above political partisanship and attempt to get at making the world a better place. Another important area for research might be revelations about how teachers move from being the person in charge of learning to becoming the mentor of learning. Naturally, further research is necessary to help teachers implement the philosophical notions related to inclusion – the practical applications of inclusionary teaching and learning. These are beginning ideas, and, hopefully, education researchers will pursue these and other related topics in their future research.

## **1.9. Conclusions**

Preparing MEd students for teaching in special education is a challenging matter. However, studying the diversity of students with special needs is a good start for becoming aware of the good practices and challenges of special education. Through this participatory action research, we created a context within MEd students from the University of Oradea explored through Photovoice, the diversity of special education with its good practices. Being active participants in this study, the MEd students became aware of values such as compassion, collaboration, equality, respect for diversity, and support for human rights, being better prepared for the special education challenges. They got the chance to evaluate through photos, the reality of the special education system with its policy and practices, either positive or negative. They reflected on these practices and, through collaborative investigation, presented their experiences regarding the strengths of special education.

A puzzle of special education strengths was built through the eight themes that emerged from the stories the participants wrote for each photo. There were positive relationships manifested among students, teachers being able to create playful learning activities, meeting students' learning styles and needs. Even if the moments of relaxations were rare, special schools provide a learning environment wherein students' behavior is under control. The teaching strategies were adapted to the needs of the students, and their socio-emotional and personal growth was developed. Extracurricular activities contributed to the process of inclusion of students with disabilities in society, as well as practical activities

developed their artistic skills. The exposure of MEd students to the diversity of special education through Photovoice showed benefits in modelling personal consciousness regarding their future workplace. Further, it created the context of self-reflection on the importance of being well-prepared for their profession.

As the study is qualitative research, we cannot generalize the findings. However, the decision to replicate the study in a different context is on the readers' hand. Still, it can successfully be realized with adjustments, according to the context, if necessary.

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## **Chapter 2 Sentiments, Attitudes and Concerns about Inclusive Education of Pre-Primary Education Students**

**Abstract** Inclusive education is an internationally respected approach within education. However, Slovakia has a long tradition in segregated education. In 2010, the Slovak Republic ratified the Convention on the Rights of People with Disabilities. Based on its ratification, Slovakia committed itself to ensure that people with disabilities shall not be excluded from the general education system due to their disability. Children with disabilities should too, together with others, have access to inclusive, high quality and free education in the community they live in. This concept of education also puts specific requirements on teacher training. Education should also be focused on strengthening the pro-inclusive attitudes of student teachers. In inclusive education, it is desirable for teachers at schools to follow the philosophy of inclusive education and thus support the idea of inclusion within education by encouraging an inclusive approach. We also tried to find out whether there is real development of pro-inclusive attitudes by administering research tools for measuring the attitudes of student teachers towards inclusive education. For this purpose, we used the SACIE-R questionnaire (Forlin, Earle, Loreman, & Sharma, 2011). Using factor analysis of their responses, we identified the main dimensions of student attitudes. In this study, we focus only on the analysis of the data obtained by students at one of the faculties of education in Slovakia in the field of preschool and elementary education. Based on the analyzed data, it appears that despite the fact that the content of our study program prepares the future teachers for inclusive education of people with sensory disabilities (visual and auditory), the teachers at mainstream schools seem to be mostly afraid of educating this group of people. The chapter is the result of a research project within the VEGA project No. 1/0732/19 titled Teachers' Attitudes to Diversity in Relation to the Selected Characteristics of Teachers.

**Keywords:** sentiment, attitude, concern, inclusive education, student teacher.

## 2.1. Introduction

The inclusive approach in education is a widely discussed topic in Slovak education. By ratifying several international documents, the Slovak Republic has committed itself to ensure that children with disabilities could not be excluded from the free and compulsory primary education due to their handicap (Convention on the Rights of Disabled Persons Art. 24 Par.2 letter a)).

### 2.1.1. Selected context in education of children with SEN in Slovakia

Slovakia is one of the countries with a long and deeply enrooted tradition of educating the children and pupils with special educational needs (hereinafter referred to as SEN) at special schools. The change in the education of pupils with SEN at mainstream schools was bought by the Concept of Education of Children and Young Learners with Disabilities from the year 1993. This concept forms the basis for equalizing the segregated and integrated way of educating children, pupils and students with SEN. Based on this and on the following legislative regulations, the integrated way of education and training has been developed. The concept of education and training of children and young learners with health disabilities (1993) and the subsequent legislative changes did not, however, have the expected effect on changing the everyday practice at schools. For example, even today, after almost 20 years, Slovak education system still does not recognize the education of children with disabilities at kindergartens and preschool facilities as part of the compulsory school attendance. This leads to a number of problems that are directly related to the education of children with disabilities. Probably one of the biggest challenges is the adaptation of the disabled children when commencing their primary education. The numbers are quite disturbing. Estimates carried out by MESA 10 association (2018) led to the conclusion that up to 60 % of children with disabilities, from 3 to 6 years old, do not or did not attend kindergarten (Hapalová, 2018). The issue is all the more serious as kindergartens are not legally obliged by the Ministry of Education of the Slovak Republic to accept a disabled child (MŠVVŠ SR, 2018). However, near future should bring a change to this situation. However, we (the authors of the chapter) ask, *if the Slovak teachers are really prepared and willing to accept and educate children with SEN at mainstream schools?*

By this question, we do not mean the disputation whether Slovak teachers are sufficiently skilled to educate children with disabilities. We rather focus on the personality of the teacher within this issue. We look for the personal attitude of teachers towards the disabled children. In fact, it is a question of whether Slovak teachers are willing to see these children as equal with “normal” children.

High-quality undergraduate training of teachers is one of the essential requirements for a successful development of inclusive education. Insufficient and poor undergraduate education of teachers and drawbacks in the form of negative attitudes among student teachers, and even senior teachers towards inclusive education set barriers that prevent applying inclusive education into practice. In inclusive education, change and development happen every day, and the teacher must have the skills to cope with them and respond to the changing needs throughout his/her whole career (European Agency for Development in Special Needs Education, 2012). According to Hapalová, Krigrelová (2013), the undergraduate teacher training lacks the opportunities to master in practice the forms and methods of work necessary for joint education of students with individualized needs. This mainly includes the absence of a comprehensive approach in education and the lack of individualized teaching. Teachers are unable to assess the psychological and social aspects that underlie the education and fostering. The undergraduate training should include the topics of inclusive education, individualized teaching, special education methods and work with a heterogeneous classroom. Colleges and universities have responded to this need by including these contents into the undergraduate teacher training (Cabanová, 2019; Clipa, Mata, & Lazar, 2020). During undergraduate training, the education content includes the topic of special education, inclusive education, as well as the applicable legislation. However, as explained above, inclusive education methods are still not a common practice in kindergartens. This means that inclusion is supported during the undergraduate training mainly on a theoretical level. Therefore, it is necessary to focus on how this educational content affects the development of student teachers' attitude towards education of children with SEN at mainstream schools.

## **2.2. Aims of the research**

The text presents the topic of student teachers' readiness for the education of handicapped children, through empirical findings. The text is a partial output from the VEGA project No. 1/0732/19.

For the purposes of the text, the following aim (issue) was formulated: to assess the attitudes of students (future teachers) towards the inclusive education of children with disabilities. The text uses two objectives to solve the issue:

- O1. Describe students' attitudes towards the inclusion of children with disabilities.
- O2. Find the differences in the observed attitudes among students at the beginning and at the end of their studies.

## 2.3. Research methods

### 2.3.1. Participants

The research was carried out from 2016 to 2018 at the Faculty of Education of Matej Bel University in Banská Bystrica. The evaluation of the research findings was performed at the beginning of 2019 and is still ongoing.

The research key participants have been the students of preschool and elementary education. This field of study includes the bachelor's, as well as master's degree level. The bachelor's degree level provides one study program of the same name – Preschool and Elementary Education (Bc.). At the master's level, students can choose from two study programs: (1) Primary Education Teacher Studies (Mgr.) or (2) Preschool Education (Mgr.). The research included students from all three years of study. Students were selected for the research in a way that would allow to compare the findings at the commencement and at the completion of studies. The comparison of data between the commencement and the completion was performed using the ex post facto procedure. Nearly 463 students participated in the research, 9 of them were males. For better clarity in the text, we labelled this set of students with the mark BC\_463 (r16/18).

**Tab. 1:** *Characteristics of the sample in terms of form and year of study*

Form of Study	Year of study and number of students			Total
	1.	2.	3.	
Full-time	170	104	134	408
Part-time	22	3	21	46
Total	195	107	157	459

Note: The total also includes empty responses from respondents. However, we did not state these answers directly in the table rows or columns.

The presented sample was compiled only from bachelor undergraduate students. Graduates of this studies are qualified to work as kindergarten teachers or as educators in the children after-school club at primary schools. The sample consisted of full-time and part-time students. Data was collected in 2016, 2017 and 2018. The group of respondents also included students who were actively teaching in kindergartens at the time of the research (i.e., were employed as kindergarten teachers). There were 37 of these students.

**Tab. 2:** *Completed education focused on teaching learners with disabilities and self-confidence during teaching*

<b>Education</b>	<b>Self-confidence during teaching children with disabilities</b>					<b>Total</b>
	<b>very low</b>	<b>low</b>	<b>average</b>	<b>good</b>	<b>very good</b>	
none	63	107	106	41	6	323
selected subjects	15	48	47	21		131
specialization studies	1		3	2		6
<b>Total</b>	<b>80</b>	<b>156</b>	<b>156</b>	<b>64</b>	<b>6</b>	<b>462</b>

Note: The total also includes empty responses from respondents. However, we did not state these answers directly in the table rows or columns

Expert resources (such as Van Reusen et al., 2000, Pearson et al., 2003, Campbell, Gilmore, & Cuskelly, 2003, Carroll et al., 2003; Ellins & Porter, 2005; Subban & Sharma, 2006) confirm that the completed education in the field of special education can positively influence the attitudes of students towards the education of children and learners with special educational needs at mainstream schools. Almost 131 students stated that they had completed the selected subjects. This, for example, includes two compulsory subjects of the education program, these are Special Education and Inclusion in Education. The completion of the specialization studies (a form of postgraduate education) in the field of special education was confirmed by six students. As this option was indicated by students of the second and third year of full-time bachelor's studies that are younger than 25 years of age, it is probably an incorrect statement. We can thus assume that they have completed only selected subjects that are part of their professional training. The group of 236 students, who stated that their self-confidence in the education of pupils with SEN is very low or low, includes 74 first-year full-time students, 55 second-year students and 39 third-year students. 14 part-time students and up to 222 full-time students find their abilities as low or very low. A total of 103 students have experience with teaching SEN learners, but only 7 of them confirmed this experience lasted longer than 30 days. These include six part-time students and one full-time student. Twenty-one full-time and 5 part-time students think they are well or very well informed about the legislation applicable to education of SEN learners.

### 2.3.2. Materials and instruments

Data collection was performed by means of a rating scale questionnaire. It included demographic and population items and material items (OT13-OT27) from the rating scale questionnaire SK\_SACIE-R(v1). It was a Slovak translation of the English-published questionnaire The Sentiment, Attitude and Concern about Inclusive Education Scale – Revised (Forlin, Earle, Loreman, & Sharma, 2011).

The use of the SACIE-R questionnaire on Slovak population had two advantages. The first one was the novelty of the tool. As it was published in 2011, the researchers have the opportunity to capture the nuances in students' attitudes towards themselves and others that would otherwise be difficult to identify, and which have their origins in the modernization and the associated liberalization of the contemporary society.

The second advantage was a very strong publication background of the questionnaire. There are translations of the questionnaire into several languages. There is also a lot of publications on the methods and ways to adapt it to foreign countries. It has been adapted in countries such as Turkey (Kis, 2016; Cansiz & Cansiz, 2018) or Italy (Aiello et al., 2017; Murdaca, Oliva, & Costa, 2018).

The original version of the questionnaire consists of 15 items. Each item consists of a question and an answer. The questions were formed as statements. The respondent's answer was expressed on a four-point scale. The degrees of the scale have the connotation -2 (strongly disagree), -1 (disagree), 1 (agree), 2 (strongly agree). In terms of items, the questionnaire is assigned a three-dimensional structure by factor analysis.

The dimension of Sentiments. It contains items to evaluate sentiments about engaging with people with disabilities. There are two groups of items:

- Fear for oneself (what if I end up with disability?). These include items 2 and 9 of the SACIE-R questionnaire (Forlin, Earle, Loreman, & Sharma, 2011, pp. 65).
- The interest in contact with people with disabilities. These include items 5, 11 and 13 of the SACIE-R questionnaire (Forlin, Earle, Loreman, & Sharma, 2011, p. 65).

The dimension Attitudes. It indicates the acceptance of learners with different support needs. This dimension determines the degree of acceptance of the idea that children who have difficulty expressing their thoughts verbally, who are inattentive and who frequently fail exams should be in regular classes (Forlin, Earle, Loreman, & Sharma, 2011.).



The dimension Concerns. It concerns inclusive education. It examines the level of students' concerns about the quality of inclusive education. There are two groups of items:

- Concerns towards the child (will they be accepted by the class?)
- Concerns towards oneself as a teacher. These include items 4, 7, 10 and 14 of the SACIE-R questionnaire SACIE-R (Forlin, Earle, Loreman, & Sharma, 2011, p. 65).

**Tab. 3.** *Parameters of the original version of the SACIE-R questionnaire (Forlin, Earle, Loreman, & Sharma, 2011, p. 57)*

	Whole scale	Sentiments	Attitudes	Concerns
Cronbach's alpha	0.74	0.75	0.67	0.65

### 2.3.3. Characteristics of the Slovak language mutation of the tool

The SK\_SACIE-R(v1) questionnaire was identical to its English original in terms of the number and order of items. It was created based on the translation of items into Slovak by a professional translator. The properties of the translated items were verified by more than 100 students. The wording of non-compliant items has been adjusted into different versions of language mutations. We then selected those items (their language mutations) which, among others, showed the best statistical properties.

**Tab. 4.** *The results of the reliability tests of the tool SK\_SACIE-R (v1) (numbers are calculated on the population of respondents BC\_463 (r16 / 18))*

	Whole scale	Sentiments	Attitudes	Concerns
Cronbach's alpha	0.679	0.590	0.628	0.0569

**Tab. 5.** *The results of factor analysis of the tool SK\_SACIE-R (v1) (numbers are calculated on the population of respondents BC\_463 (r16 / 18))*

Chi-squared Test			
	Value	df	p
Model	313.209	63	< .001

**Tab. 6.** *Component loadings*

	<b>Dimension 1</b>	<b>Dimension 2</b>	<b>Dimension 3</b>	<b>Uniqueness</b>
OT13R	0.404			0.850
OT14R		0.564		0.649
OT15			0.615	0.621
OT16R	0.670			0.596
OT17R		0.624		0.505
OT18			0.635	0.559
OT19R	0.684			0.511
OT20	-0.461		0.465	0.604
OT21R	0.417			0.736
OT22R	0.625			0.557
OT23R		0.791		0.349
OT24			0.691	0.464
OT25R		0.812		0.362
OT26R	0.452			0.718
OT27			0.723	0.455

*Note.* Applied rotation method is promax.

We expressed the reliability of the tool through the calculation of the degree of internal consistency between the items. This was done by calculating Cronbach's alpha for the tool as a whole, as well as for the individual items. The value of Cronbach's alpha as a whole was 0.679. The consistency of the individual items reached the lowest value of 0.637 and the highest value of 0.686. (p.a. measured by Cronbach's alpha).

We assessed the constructs validity of the tool through factor analysis of items – the analysis of the main components. The purpose was to verify the distribution of items into the three dimensions, as per the SACIE-R tool (Forlin, Earle, Loreman, & Sharma, 2011).

Items of the Slovak version of the SK\_SACIE-R (v1) tool were distributed into three main dimensions (Dimension 1, Dimension 2, Dimension 3). The classification of items into the dimensions within the Slovak version of the tool was the same as in the original. All but one of the items have been assigned to exactly one dimension. This one item belonged to the dimension Attitudes (Tab. 6 OT20, within the original tool Forlin, Earle, Loreman, & Sharma, 2011, it is the item 8). This item measured the level of agreement with educating children and learners who require communicative technologies (e.g., Braille/sign language) in regular classes.

The used factor model of division into dimensions covered 43 % of the total variability of all responses. The coverage rate of response variability in the original instrument was just below 48 % (Forlin, Earle, Loreman, & Sharma, 2011).

## 2.4. Results

We classify the research findings into three parts.

- The first part includes the calculation of the summary index of students' attitudes.
- The second part covers the analysis of the summary index in terms of the allocated dimensions.
- The third part identifies the differences in findings between the novice students and the graduating students.

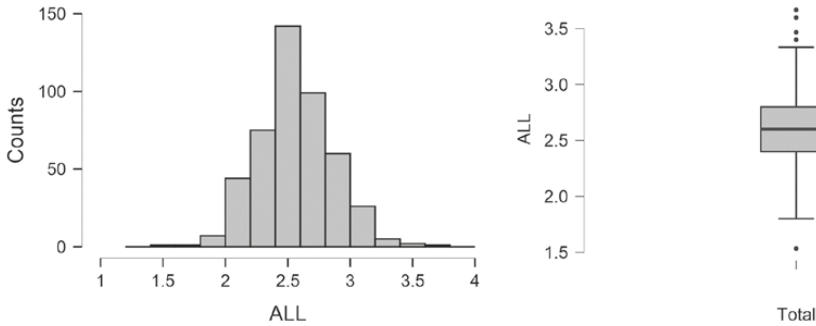
### 2.4.1. Calculation of the summary index

We expressed students' attitudes towards inclusion through a summary index. The index was calculated as the mean score of all the items in the questionnaire. The purpose of the index was to compress students' responses into one general variable. The values of the calculated index could fall into a closed interval of 1 to 4. The range of values included rational numbers. The advantage of this calculation lies in the conversion of the ordinal data into ratio data. This allowed us to determine a neutral limit value between the students' positive and negative students. This limit value was 2.5. Results above this limit mean there is a predominance of positive responses from students to the statements provided in the questionnaire. The values below it, in turn, prove a predominance of negative responses.

**Tab. 6a.** *Summary index for the sample BC\_463 (r16/18) (as a whole)*

Valid	463
Missing	0
Mean	2.591
Median	2.600
Std. Deviation	0.298
Shapiro-Wilk	0.993
<i>P</i> -value of Shapiro-Wilk	0.026
Minimum	1.533
Maximum	3.667

The population of BC\_463 (r16/18) students as a whole showed a rather neutral attitude towards the issue. The value of the index for all 463 students was 2.59 in total. The maximum value for individuals was 3.67 and the minimum was 1.53. The value of the first quartile (i.e., 75 % of cases) was 2.4. The third quartile (25 % of cases) was 2.8. The data did not have the shape of a normal distribution but were very close to it. The result of the Shapiro-Wilk. test was 0.993 at an alpha significance level of 0.05 and at the skewness value of 0.429 and the kurtosis value of 0.166.



**Fig. 1:** Distribution of summary index values for the sample BC\_463 (r16/18) (as a whole)

**Tab. 7.** The achieved score for the individual items in the questionnaire (calculated for the whole sample BC\_463 (r16/18))

	Number	Median	Mean value	Mean value interval	Min. /Max. Value
Statements with positive scoring	8	3	2.87	2.83–2.90	2.63/3.26
Statements with negative scoring	7	2	2.28	1.96–2.48	2.24/2.31

We compared the results of the summary index with the results of the scores for individual items of the questionnaire (Tab. 7). This has also proven that students do not have a strictly set attitude. Their attitudes were more positive on some of the statements and tended towards negative on other. Most of the students answered positively to eight questions. Seven questions were answered with a negative response. The mean value of positive responses was 2.87. The item with the lowest score among these questions was OT27 stating that “Students

who need an individualized academic program should be in regular classes.” The question OT23, in the original version as “I am afraid to look directly at a person with a disability,” received the highest score. The mean value of the negatively evaluated items was 2.28, while the lowest scored item in the whole questionnaire was the item OT26 in the original version as “I am concerned that I do not have the knowledge and skills required to teach students with disabilities.”

#### 2.4.2. Analysis of the summary index through the optics of attitudinal dimensions

Due to the deeper intersection of the measured values, the summary index of the student’s attitudes was converted into a contingency table. The table was compiled in a way that allowed to observe the connection between the positively scored statements and their dimensional characteristics.

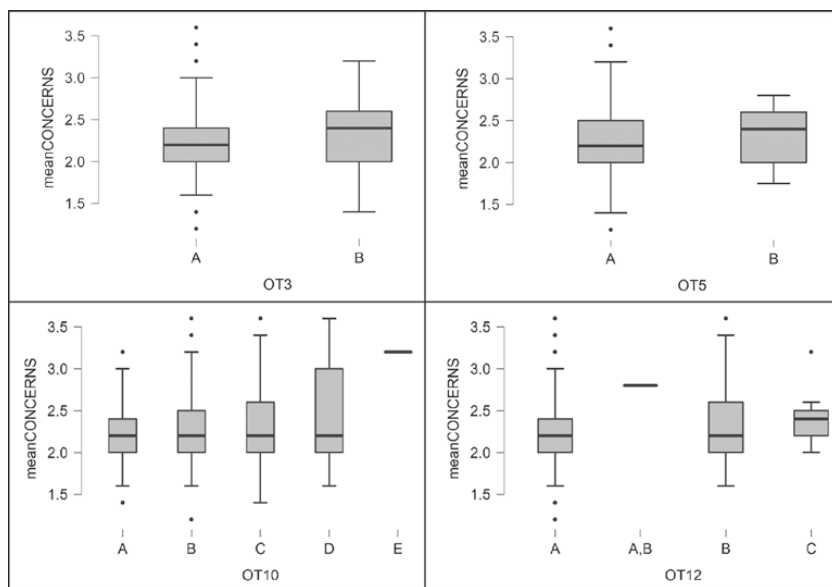
**Tab. 8.** *The connection between an item’s score and the item’s assignment to one of three factors*

		Positive			Negative		
		Median	Mean v.	n	Median	Mean v.	N
Assignment of an item to a factor	Sentiments	3	3.01	4	2	2.36	1
	Attitudes	3	2.83	4	2	2.23	1
	Concerns	3	-	0	2	2.25	5

Chi-square = 8.571;  $p$ -value = 0.0137

The contingency table showed that the distribution of the responses to the questionnaire items depended on the item’s assignment to a dimension. The chi-square test value was 8.571 at a  $p$ -value of 0.0137 and at an alpha significance level of 0.05.

No differences were found between the items with the Sentiments and Attitudes dimensions. Only a different distribution of responses was proven between the items of the Concerns dimension and the rest of the items. All items belonging to the Concerns dimension were scored rather negatively than positively. This data is clearly obvious in Tab. 8 on the median value. We compared the respondents’ responses within the Concerns dimension between different population subgroups of the sample BC\_463 (r16/18). The results are indicated in Fig. 2. The figure does not show the score results for individual items. It only shows the summary average value for the items of the Concerns factor as a whole.



**Fig. 2.** Comparison of the average score value from the items of the Concerns factor, between the full-time and part-time students (OT3), between male and female students (OT5), between the students based on their level of knowledge of legislation (OT10) and based on their experience with the education of disabled children (OT12)

Comparisons of the subgroups confirmed differences only at the median level. There was no statistically significant difference in the mean value. Differences were proven at the level of the median value between the full-time and the part-time students (OT3), between the male and female students (OT5). It also proved that students with extensive experience in teaching SEN students (30 or more days – OT12 from the Concerns dimension) had less concerns than the other students. The higher median value at similar mean values indicates that the differences were caused by a more positive expression of just a small group of students.

### 2.4.3. Differences in results between novice and graduate students

When measuring attitudes, we also focused on identifying the differences between the novice and the graduating students. We wanted to find out if the attitudes of novice students (1st year) differ from the attitudes of the graduating students (3rd year). The differences were tested in three ways:

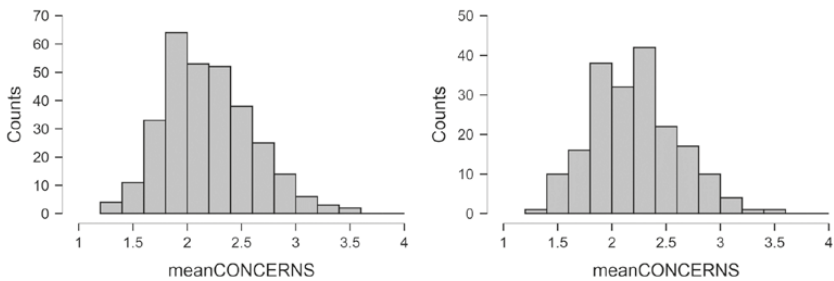
- comparing the total of the summary index (Tab. 9);
- comparing the differences in the mean score of the dimensional factors (Tabs. 10–12);
- arranging the items according to the difference in score between the two groups (Tab. 13).

**Tab. 9:** Comparing the summary index (novice vs. graduating students)

	ALL	
	1y	3y
Valid	195	307
Missing	0	0
Mean	2.572	2.587
Std. Deviation	0.278	0.309
Minimum	1.867	1.533
Maximum	3.267	3.667

**Tab. 10.** Comparing the scores within Concerns dimension (novice vs. graduating students)

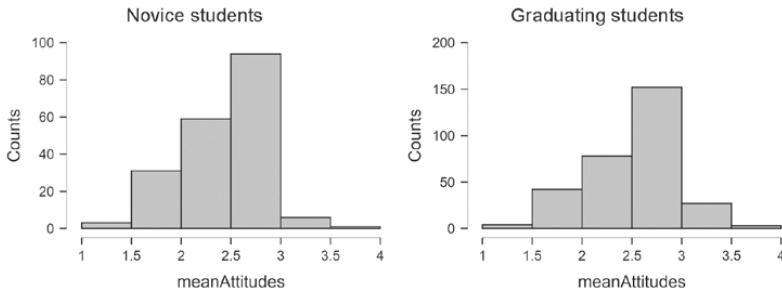
	Mean CONCERNS	
	Novice	Graduating
Valid	195	307
Missing	0	0
Mean	2.301	2.283
Std. Deviation	0.408	0.421
Minimum	1.200	1.200
Maximum	3.600	3.600



**Fig. 3.** Score histograms for the Concerns dimension between the novice and graduating students

**Tab. 11.** Comparing the scores within Attitudes dimension (novice vs. graduating students)

	Mean Attitudes	
	Novice	Graduating
Valid	194	306
Missing	1	1
Mean	2.481	2.584
Std. Deviation	0.413	0.455
Minimum	1.000	1.000
Maximum	3.600	4.000

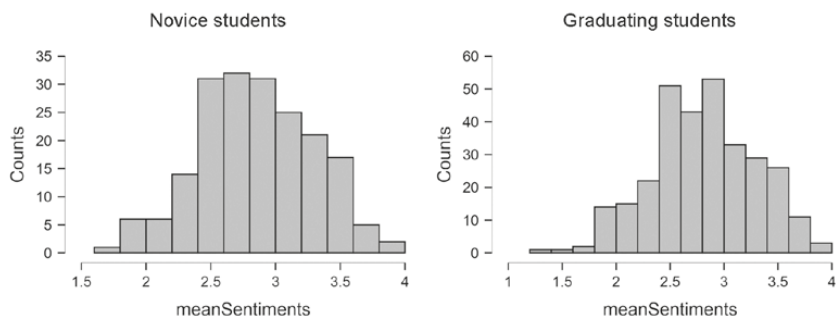


**Fig. 4.** Score histograms for the Attitudes dimension between the novice and graduating students

**Tab. 12.** Comparing the factor scores within Sentiments dimension (novice vs. graduating students)

	Mean Sentiments	
	Novice	Graduating
Valid	193	305
Missing	2	2
Mean	2.932	2.897
Std. Deviation	0.463	0.492
Minimum	1.600	1.200
Maximum	4.000	4.000





**Fig. 5.** Score histograms for the Sentiments dimension between the novice and graduating students

**Tab. 13.** Comparing the responses to individual items of the questionnaire (novice (1y) versus graduating (3y) students)

Item	year	N	mean	St. Deviation	Student test	Welch Test	Mann-Whitney test																																																																																																																																																																				
OT13	1y	195	2.487	0.769	0.662	0.665	0.572																																																																																																																																																																				
	3y	156	2.455	0.636				OT14	1y	192	2.766	0.839	0.925	0.923	0.930	3y	151	2.629	0.906	OT15	1y	190	2.563	0.693	< .001	< .001	< .001	3y	153	2.869	0.593	OT16	1y	191	2.168	0.683	0.900	0.902	0.852	3y	156	2.077	0.617	OT17	1y	191	3.031	0.632	0.936	0.933	0.891	3y	154	2.922	0.700	OT18	1y	190	2.495	0.665	< .001	< .001	< .001	3y	155	2.761	0.675	OT19	1y	194	2.309	0.673	0.982	0.982	0.989	3y	153	2.157	0.670	OT20	1y	193	2.207	0.706	0.148	0.151	0.150	3y	155	2.290	0.773	OT21	1y	186	2.462	0.793	0.968	0.969	0.966	3y	153	2.307	0.728	OT22	1y	192	2.521	0.686	0.964	0.966	0.973	3y	156	2.391	0.638	OT23	1y	193	3.264	0.660	0.746	0.744	0.650	3y	154	3.214	0.741	OT24	1y	191	2.717	0.652	0.052	0.053	0.053	3y	153	2.837	0.702	OT25	1y	193	3.114	0.643	0.675	0.655	0.581	3y	154	3.084	0.714	OT26	1y	190	1.989	0.690	0.248	0.247	0.223	3y	154	2.039	0.646	OT27	1y	194	2.428	0.666	< .001	< .001	< .001
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The summary index of the graduating students' attitudes was not fundamentally different from the novice students. For the graduating students, the summary index reached the value of 2.59 with a standard deviation of 0.309. Novice students had a summary index value of 2.57 (standard deviation was 0.278). No differences have been confirmed at the level of analysis of the achieved score within the three monitored factor dimensions. The distribution of students' responses was very similar across all the dimensions. Score differences were not statistically significant for any of the dimensions.

We also found that the order of the dimensions in terms of their average score achieved was the same with both the novice, as well as the graduating students. Both groups proved the same order of dimensions according to the average score achieved. The highest score was achieved within the Sentiments dimension. The value of the summary index for this factor was 2.89 for the graduating, and 2.93 for the novice students. The second position belongs to the Attitudes dimension with index values of 2.58 (graduating) and 2.48 (novice). The lowest score was achieved within the Concerns factor. The index value here was 2.28 and 2.30.

The analysis of differences at the level of individual questionnaire items proved that the differences between the graduating and novice students were yielded only for three items (in 12 items the shift was not proven). These include the following statements:

- OT15 that reads as “Students who have difficulty expressing their thoughts verbally should be in regular classes” (originally item 3 in the 2011 Forlin, Earle, Loreman & Sharma questionnaire).
- OT18 that reads as “Students who are inattentive should be in regular classes” (originally item 6 in the 2011 Forlin, Earle, Loreman & Sharma questionnaire).
- OT27 that reads as “Students who need an individualized academic program should be in regular classes” (originally item 15 in the 2011 Forlin, Earle, Loreman & Sharma questionnaire).

All the above statements belonged to the items of the Attitudes dimension.

## 2.5. Discussions

The fact that the SACIE-R questionnaire has been used in different countries (e.g., in Spain by Navarro-Mateu, Franco-Ochoa, Valero-Moreno, & Prado-Gascó, 2020) proves how important the issue of educating SEN children is. The importance is based not only on the fact that in various countries they feel the need to understand the attitudes of people towards this group, but also that the structure of the tool provides enough space to look for the differences in the cultural understanding of the concept of disorder, disability, concern, and handicap. The implemented adaptations of the tool in different countries do not always show the same characteristics of the individual dimensions. It seems that the cultural gap and conventions within the individual countries can strongly influence respondent's answers. Due to this, it is also very difficult to generalize our findings on a wide population of students. We perceive them as means for creating better study programs at our university. The expected change in attitude of the graduating students has not been proven. We found no reason to claim that

any kind of experience (whether theoretical or practical) with the topic of educating children with SEN will have a positive effect on changes within the three dimensions. The findings rather prove that students change only those attitudes that are very closely related to the experiences during their studies. This is confirmed by the findings from the Attitudes dimension. It has been proven there was a shift in the score of those items that are most closely related to the content of the studies they graduated from (Tab. 13). This is also confirmed by the finding that no shift in accepting the statement “Students who frequently fail exams should be in regular classes” has been measured.

In the context of education in Slovakia, we deal with a very specific issue of “failing to meet the educational standards.” The prevailing opinion is that “regular” schools should only educate those children who are able to cope with the current standards set by the educational authorities. This is also the case with the item “Students who require communicative technologies (e.g., Braille/sign language) should be in regular classes,” with its content not based on practical experience and actual practice. The low impact of their studies on the shift in scores for these items can be explained by the insufficient connection with the student’s practice teaching. Theoretical knowledge without direct practical experience is received by students as something they will not meet during their work at schools.

Our findings correspond with those of the Forlin, Sharma and Loreman research (2007). They found that in countries such as Canada or Australia, students’ attitudes were much more positive compared to countries like Singapore and Hong Kong. The findings indicate that this confirms there is a connection between the degree of positive attitudes and the cultural and social environment in the particular country.

The findings also indicated a second issue – students’ very strong fear of failing. Students are concerned they will not be able to provide sufficient support to children with SEN during their education. There has been no progress in this area, despite several practical experiences. This issue needs to be further addressed and we believe it is very important to solve the question of whether this is caused by the fear of insufficient classroom management skills, or if it is based on the demanding nature of educating SEN children, an idea generally presented by the prevailing opinions at schools and beyond. Contact with SEN children and their education is always presented as very important, but extremely demanding.

## 2.6. Conclusions

The chapter presents findings of a research focused on monitoring the sentiments, attitudes and concerns about inclusive education. We solve two research goals.

The first was to determine what are the students' attitudes towards the inclusion of children with disabilities. We can say that the attitudes are more neutral than tendentious. The value of the attitude summary index for the observed group of students was 2.5. However, this value cannot be perceived in the same way across all the dimensions. The Concerns dimension reported for all students' lower values than the other two. Its median was 2 in all the items included within this group (Tab. 9). The students had most doubts about seeing themselves as future teachers of SEN children, as well as about the acceptance of these children by their classmates. Concerns showed slightly higher values with full-time students than with the part-time students. At the same time, they were lower among students with documented experience in educating children with SEN. The Sentiments dimension contained items with the highest scores. These included items that asked about their feelings after meeting people with severe physical disabilities for the very first time. The Attitudes dimension scored similarly to the Sentiments dimension. Both of these dimensions reported higher scores than the Concerns dimension.

The second goal was to assess the change in attitudes during their studies. For this purpose, we used the ex post facto procedure to compare the results of the novice and the graduating students. We did not discover any general shifts at the level of sentiments, nor at the level of attitudes or the level of the concerns. We discovered some shifts for only three items within the Attitudes dimension (Tab. 13), these included the items that were the most related to the content during the studies. Thus, we can confirm the conclusions of Forlin, Sharma, and Loreman (2007) that teacher education programs need to reinforce to pre-service teachers simply because some students require more effort to work with does not necessarily mean that they are less worthy of being included in regular classes.

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## Chapter 3 Leadership and Learning Style in Educational Management

**Abstract** The need for social life management is so obvious nowadays that various authors think that the economic and social developments are influenced to a great extent by the way in which leadership is done. With respect to the development of the activities within the educational institutions, we appreciate that they require the setting of some high-performance standards that lead to the increment of the leadership process complexity. At the same time, the employee–leader relationship changed because nowadays there isn't an emphasis on the individualized approach but on teamwork. Bringing into discussion learning too, it has to be said that the teachers' leadership style can be influenced by their learning style or vice versa. In other words, the learning process does not end at the working place since the leadership and learning styles have a very strong connection. The responsibilities, abilities and skills acquired by the teachers that successfully manage a class of pupils or even a school, encourage learning and convince of the necessity of continuous learning.

Thus, "Leadership and learning in school management" is a nowadays theme aiming at the way in which both teachers' leadership and learning styles are part of an efficient school management. Thus, this research aims at investigating the way in which teachers' leadership and learning styles interact in order to get an efficient management. The data were collected using MLQ (Multifactor Leadership Questionnaire) – A self-assessment questionnaire for leader and LSI (Learning Styles Inventory).

**Keywords:** leadership styles, learning style, educational management, performance.

### 3.1. Introduction

The matter of leadership" was discussed in thousands of volumes, conferences and all kinds of international congresses". More than that, some research results proved that a leader's job becomes more and more complex in many occasions. Leadership is a subject that never ends and is very important for the literature. It is defined from many points of view: either as a persuasion process in which the leader encourages the employees to share a common vision or as a process where a person succeeds in being supported by other persons to perform certain tasks (Bush, 2015; Clipa & Greciuc, 2018a; Rilea, 2006). According to Kotter (2009),

leadership has as a primary function the change, the accomplishing of the great visions being always in need of an energetic burst and the elementary human needs (fulfilment, belonging, recognition, self-esteem, being in control of one's life) are satisfied. In other words, a good leadership promotes a performing and efficient team (Goleman, 2007) and brings change (Verboncu & Zalman, 2005; Zlate, 2004).

There is a difference between leadership and educational management. The leadership directs people and their ideas and establishes orientation, while management organizes and plans everything avoiding chaos. John Kotter (2009) compared management and leadership: in terms of creating an agenda, the manager plans the steps, detailed schedule and necessary resources to obtain the results, while the leader creates a vision for future and establishes changes strategies; in terms of creating human networks for the plans' accomplishment, the manager carefully chooses the officials to deal with that plan, while the leader focuses on cooperation and team work; regarding execution, the manager monitors everything, identifies errors and solves problems, while the leader motivates, inspires and energizes the employees; when talking about the results, the manager establishes a certain order and can produce results constantly, while the leader can produce a radical and very valuable change sometimes; if we refer to the primary function, management creates an organization which is able to produce important results, while leadership puts people behind a vision and strategies aiming at putting up with possible major changes; if we refer to the short description of the activity, management implies a rigorous projection, each person playing an well-established part to meet the goals, while in the case of leadership people are challenged and determined to cooperate and believe in the vision and planned strategies (Calas, 1993; Leary-Joyce, 2008). The ideal leader may be a traditional scholar, a professional expert, an organizational executive, a moral teacher or an educational entrepreneur and the effective school leadership is one person or an elite group who are a continuous manifestation of necessary social hierarchy and who can transform, empowering and democratizing educational field (Grace, 2005).

As a conclusion, even if leadership and management are different, they are equally important in the circumstances in which the educational institutions aim at achieving the suggested objectives and efficiency.

### **3.2. Leadership & learning style – Theoretical framework**

It is a well-known fact that the good functioning of an institution or organization depends on the leader's working style particularities. A sociable, correct, polite

and confident person is going to be easier accepted in a management position by the employees than a ragged, unstable, demanding and irrepressible person. Thus, it is necessary to study the leadership style because of the influence it has on the psychological, relational and socio-affective climate (Clipa & Greciuc, 2018b). Regarding the leadership we remark the fact that, in the literature, leadership styles are extremely large in number, as many authors have come to their own classification (Bush & Glover, 2003; Calas, 1993; Covey, 2001; Stolovitch & Keeps, 2017). More than that, in the last 20 years, the researchers became very interested in testing new theories (Avolio & Bass, 2004). *Transactional leadership theory* and *transformational leadership theory* are two defining theories regarding leadership. The terms “transformational” and “transactional” leadership were quoted by J. M. Burns (*Leadership*, published in 1978). He interpreted the two concepts as follows: transformational leadership is defined by behaviors of the leader who generates in his employees the desire to reach some organizational goals, which overlap with their own personal interests. The other type of leadership, the transactional one, is defined by behaviors which determine commitment; people desire to meet the organizational objectives. Thus, the *full range leadership* was developed. The three leadership styles included: *transactional leadership*, *transformational* and *passive/avoidant leadership* and can be measured using the *Multifactorial Leadership Questionnaire (MLQ)*, in its most recent version (*5X Form*) (Avolio & Bass, 2004). In the case of the transactional leadership, there are often met behaviors as: cooperation, strengthening the employees’ behavior and rewarding them, establishing standards by the leader as well as penalties in case of deviations from the standards.

Within a school, transactional leadership is successful when the pupils succeed in completing certain tasks in order to be rewarded (appreciation from parents, colleagues or teachers, scholarships etc.). The transformational leadership, “charisma,” is the term used most often in describing it (Clipa & Greciuc, 2018b; Leary-Joyce, 2008). In other words, we talk about those leaders that inspire, motivate, want development for both them and their employees, who are decided to achieve maximum performance and who provoke. Numerous studies proved in different situations (inside organizations, sport teams etc.) both the efficiency of the transformational leadership as well as its superiority towards the transactional one (Avolio & Bass, 2004; Gunter, 2001). About the laissez-faire leadership style, we can say that it includes those behaviors that materialize in avoiding action and responsibility.

Transformational leadership explains between 45 % and 60 % of the organizational performance variant and predicts a greater level of innovation, creativity and efficiency of the research and development teams. It is also understood as

a process of influence, change of the employees' (colleagues, subordinates) way of being aware of what is important and determine them to have a new perspective on themselves, the work tasks and opportunities and of their environment challenges. Transformational leaders generate a firmer alignment with the organization's vision and mission, create a safer work environment and generate a better group cohesion and work dedication which decreases staff fluctuation (Avolio & Bass, 2004).

### **3.2.1. Leadership and learning**

A new concept named "educational leadership" or "learning-centered leadership" first appeared in North America because of a great interest in teaching and learning management. Within the learning-centered leadership in educational institutions, all the members are involved in the learning process (either from their own initiative or following the others advice), they will be more receptive in learning new aspects, more open in case of major changes and will value their colleagues' efforts. The teachers can determine the efficiency of the teaching act by using some appropriate techniques, so that it could help the students develop their preferences and know them better (Iliescu & Dincă, 2007). Teachers can draft a daily plan which could satisfy all preferences, determining the students to attend the lessons irrespective of the learning style they have (Antoniakis, 2003; Clipa & Greciuc, 2018a; Cramp, 2016; Santamaria & Santamaria, 2013; Tenney & Gard, 2017). The leaders have the ability of understanding the needs of their employees and help with all the resources they have at hand in the institution's development. Instructional leadership is a concept linking teaching and learning process (Buch, Bell, & Middlewood, 2019, p. 5). As a conclusion, the role of learning-centered leadership is to permanently involve the team of teachers from an education institution in looking for learning motivation as well as understanding the processes that encourage and support learning.

## **3.3. Methodology**

The aim of this research is to investigate how the learning and leadership styles of the teachers interact in order to result in an efficient management.

### **3.3.1. Hypothesis**

- I. There is a difference between the teachers in urban and rural areas regarding the use of the learning styles of educational manager.

- II. There is a positive correlation between the teachers' extra effort and their efficiency as a leader.
- III. The teachers' lack of involvement is negatively correlated with the leadership related satisfaction.
- IV. Age categories influence the teacher's leadership style.

### 3.3.2. Research variables

- a) Independent variables: the origin environment, age categories, extra effort, avoiding teachers' involvement.
- b) Dependent variables: learning styles (extroverted-introverted, practical-imaginative, rational-emotional and organized-flexible), efficiency as a leader, leadership-related satisfaction, innovative thinking, building trust, results rewarding, mistakes monitoring, avoiding involvement.

### 3.3.3. The study's sample

The research was done on 140 subjects (teachers that teach both in preschool and primary school, as well as gymnasium teachers). Differentiated by *gender*, the sample comprises 51 male and 89 female subjects. By the environment variable, the plot comprises 70 subjects from the rural and 70 from the urban areas. The participants were categorized by *age*: *category 1* (18–35 years old), *category 2* (36–45 years old), *category 3* (46–60 years old).

**Used instruments:** *Leader's self-assessment questionnaire – Form 5x (MLQ – Multifactor Leadership Questionnaire)* developed by Bruce Avolio and Bernard Bass; *Learning styles inventory (LSI – Learning Styles Inventory)* developed by Thomas Oakland, Joseph Glutting and Connie Horton.

a) **The leaders' self-assessment questionnaire (MLQ)** is a structured measure of three leadership styles: Transformational, Transactional and Passive/Avoidant Leadership. The questionnaire comprises 45 items grouped in 12 scales. The items valuation will be done by the use of the Likert Scale, 0 standing for *not at all*, 1 for *rarely*, 2 representing *sometimes*, 3 standing for *often* and 4 representing *frequent or always*.

For *Transformational scales*, it is possible to find *idealized attributes* (builds trust) – the high scores detect the persons that have the ability to influence, inspiration power, arising pride, overcoming personal interests in favor of the group, ensuring and giving trust and serving as a model to the ones that follow; *idealized behaviors* (acts with integrity) – the high scores emphasize the tendency to manifest ideal behaviors as ascendancy, dominance, conscientiousness,

self-control, high morals, optimism and efficiency; *inspirational motivation* (inspires the others) – the leaders with high scores at this scale behave in a motivating manner for the ones around, dignifying the work and discovering challenge in its own activity and the others. These leaders speak optimistically about the future and stimulate others to positively relate to it; *intellectual stimulation* (encourages innovative thinking) – the high scores identify the persons that stimulate and cultivate innovation and creativity for the ones around them. These leaders ask their employees to continuously find new ideas and creative solutions for the common problems, being continuously trained into the resolution process; *individual appreciation* (develops people) – high scores persons pay attention to each individual's need for development and realization, acting as a mentor and trainer, giving time, effort and individual resources in order to help the ones around them to grow and develop.

*Transactional leadership* implies attentively monitoring problems, and it is exercised by intensive work with the individuals and the groups it has in subordination and leads to accomplishing the job's specific tasks.

*Transactional scales* show *situational reward* (rewards the results) – the high scores leaders behave characteristically to an efficient transaction namely tending to discuss in clear terms who is responsible to accomplish the performance objectives and express their satisfaction when the others accomplish what was expected of them; *management through exception: active* (monitors mistakes) – the persons with high scores at this scale are the leaders that clearly specify both the compliance standards and what inefficient performance represents. This leadership style implies an attentive monitoring of the deviations and mistakes and then takes corrective action as soon as possible.

*Passive/avoidant leaders* avoid identifying and clarifying the critical areas and potential problems, avoid involvement, fix standards and monitor results of the employees' actions. This leadership style has many times a negative effect on the results. The leadership style is possible to be:

*Management through exception: passive* (to overcome problems) – The leader that adheres to a passive management through exception does not expect for the errors to appear, but it effectively expects the problems to become serious for him to take action. He is adept of the conviction that “if it hasn't broken yet, we do not fix it.”

*Permissive management* (laissez-faire) – This leadership style can be rather defined as a non-leadership style and it is at the other extreme of the transformational style in efficiency. In the case of the permissive leadership, the leader

avoids assuming the management behavior: does not give information or feedback to the employees and it is not able to recognize and satisfy the employees' desires.

### 3.3.4. Leadership results

Both transformational and transactional leadership are related to success at individual, group and organizational levels. Leadership efficiency is assessed by MLQ based on the way in which employees and colleagues perceive leaders as being good motivators, efficient in interactions at different organizational levels and giving satisfaction with their work methods (Avolio & Bass). *The scales* is about extra effort (generates extra effort) – extra effort, as an effect of an efficient leadership, is the desire of the employees to achieve superior performance by greater efforts, being convinced to do more than it can legitimately be expected of them; *efficiency* (it is efficient) – the efficiency scale identifies through its high scores the efficient leaders, judged by the others' professional needs satisfaction, of their group representation in front of a superior authority, in satisfying the organizational demands and last but not least, through the whole coordinated group efficiency; *leadership related-satisfaction* (generates satisfaction) – this scale has two items and it identifies through its high scores leaders that generate interpersonal satisfaction in the interaction with the others. These leaders are open, authentic, warm, honest persons able to generate and develop feelings of gratitude at the level of the people they work with.

b) **Learning styles inventory (LSI)** comprises 69 items with two variants of answers of your choice: *A* and *B*. In other words, LSI is composed of items which ask the subjects for a dichotomist answer. This measures four bipolar learning styles: *the extroverted–introverted style*, *the practical–imaginative style*, *the rational–emotional style* and *the organized–flexible style*.

*The extroverted–introverted style* contains 24 items; the high scores characterize the teachers who adopt an extroverted style, and the lower scores represent the teachers who embrace an introverted style.

The persons who embrace an extroverted style present the following features: they are vigorous and enthusiastic, they take their energy from the events they face with in the exterior, they feel strong, appreciate the interaction with the others, react rapidly, they seem impulsive and superficial, easily express ideas and feelings, are open, have a wide range of interests, prefer assuming the role of a leader, and be permanently occupied, they do not feel comfortable when they are alone, need compliments from the others and they rather prefer talking than reading (Oakland, Glutting, & Horton, 2007).

The persons that chose an introverted style are characterized by the following features: need to be alone and to have time for themselves, are full of energy only after they spent time alone, they are more difficult in answering to external stimulus, hesitate, are cautious, think more before acting, have less friends, prefer working alone, are reserved and difficult to know by the ones around them, they are difficult in sharing their feelings and opinions, they'd rather listen more than speak, are interested in few things, but they deepen them (Oakland, Glutting, & Horton, 2007).

*The imaginative-practical style* comprises 17 items; the high scores also characterize the teachers that embrace a practical style and the lower scores characterize the teachers who adopt an imaginative style.

The persons who adopt a practical style present the following features: they are attentive to the real actual things, to what happens with the surrounding environment, they would rather use the experience acquired previously in order to solve problems, they can be named realistic and pragmatic, preferring the present, they are suspicious when confronted to assertions that are not sustained by proofs, are careful with the details, prefer simplify instead of complexity, and involve in concrete activities (Oakland, Glutting, & Horton, 2007).

The persons that embrace an imaginative style present the following features: they prefer more metaphors and symbols than facts, are creative, interested in theories and less in their applicative part, they learn using intuition, value the power of understanding, they would rather learn new skills, have many original ideas, they like change and innovation, and pass easily over details, they prefer complexity, work hard for a long period of time and after get some rest (Oakland, Glutting, & Horton, 2007).

*The rational-emotional style* comprises eight items; the high scores also define the teachers that embrace a rational style and the lower scores define the teachers that adopt an emotional style.

The people who assume a rational style present the following features: they are analytical and critical, they say the truth as they see it, appreciate logic, are skeptical, they do not digress in a speech, treat people correctly, they feel uncomfortable when having to express their emotions, they praise very rarely the ones around them and revolt against injustice (Oakland, Glutting, & Horton, 2007).

The people embracing an emotional style present the following features: are warm and compassionate to the ones around them, are friendly, they digress when they speak and they hardly come to the main idea, they feel comfortable when it is about the emotional aspects, often appreciate others' activities, they want to fit in, trust the others, are optimistic, have social and interpersonal



skills, analyze more people than facts, are compassionate to the others (Oakland, Glutting, & Horton, 2007).

*The organizational-flexible style* comprises 20 items; the high scores represent the teachers who assume an organized style while the low scores define the teachers that embrace a flexible style. The persons that take on an organized style present the following features: they always plan the activities and have a clear schedule, work without hurrying, they do not leave the things unclear, are trustworthy, they want to know the events they attend beforehand, they are not attracted to surprises, are correct, control things, they want to know only the essential about a subject, their thinking is always structured and planned and tend to hurry things (Oakland, Glutting and Horton, 2007).

The persons that adopt a flexible style present the following features: they desire things to be free and non-structured, they love surprises, they experience as much as possible, adjust to life events as they come, they would rather break the rules, they tolerate mess in their personal objects, look for opportunities to enjoy life, have flexible opinions and love playing different roles (Oakland, Glutting, & Horton, 2007).

### 3.3.5. The procedure

The questionnaires were applied in 2017–2018 as a result of obtaining the consent of the subjects that they want to take part in this research. Regardless of whether it is all about a survey or an inquiry, the questionnaire always proves to be one of the most frequently used techniques (Swan, 2017). The sampling method of the questioned population was applied at four schools from urban areas and four from rural areas in Suceava County: 25 questionnaires were distributed to the teachers from “Constantin Tomescu” School in Pleșești, 25 questionnaires were distributed to the Technological Highschool “Mihai Eminescu” Dumbrăveni, 20 were distributed to “VornicuSimionTăutu” School in Comănești, Suceava County, 29 questionnaires were for the teachers from “Mihai Eminescu” National College, Suceava, 21 questionnaires went to Filadelfia Theoretical Highschool Suceava, 6 questionnaires were distributed to the teachers from School No. 3 Suceava and 14 of them to “Dimitrie Cantemir” Economic College Suceava.

## 3.4. Results

**Hypothesis no. 1:** There is a difference between the teachers in urban and rural areas regarding the learning styles use.

In order to check if there is a statistical difference between the teachers in the urban and rural areas regarding the use of the extroverted–introverted learning styles, we applied the *t*-test for independent samples. The results proved that there is no significant difference between the teachers mean in the urban areas (M = 35,90, SD = 5,43, N = 70) and the mean for the rural area teachers (M = 35,04, SD = 5,19, N = 70): [t (138) = 0,953, p = 0,171, p>0,05]. These results indicate that the teachers’ area does not influence the extroverted–introverted learning style. The representation of the means is presented below (Tab. 1).

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Stilul extravert INTROVERTIT	Equal variances assumed	.385	.538	.953	138	.342	.85714	.89918	-.92081	2.63509
	Equal variances not assumed			.953	137,722	.342	.85714	.89918	-.92084	2.63513

**Tab. 1:** *The differences between teachers’ areas and learning styles*

In order to verify if there is a statistical difference between the teachers in the urban and rural areas regarding the use of the practical–imaginative learning style, we applied the *t*-test for independent samples. The results showed that there is no significant difference between the teachers mean from urban area (M = 24,75, SD = 2,99, N = 70) and the teachers from the rural area (M = 24,42, SD =3,72, N = 70): [t (138) = 0,575, p = 0,283, p>0,05]. These results prove the fact that the origin environment of the teachers does not influence the practical–imaginative learning style (Tab. 2).

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Stilul practic IMAGINATIV	Equal variances assumed	.102	.750	.575	138	.566	.32857	.57122	-.80091	1.45805
	Equal variances not assumed			.575	132,059	.566	.32857	.57122	-.80136	1.45850

**Tab. 2:** *The differences between teachers’ areas and learning styles*

In order to corroborate if there is a statistical difference between the teachers from the urban and rural areas regarding the use of the rational–emotional learning style, we applied the *t*-test for independent samples. The results revealed that there is no significant difference between the two means, the urban area teachers (M = 12.60, SD = 1.53, N = 70) and the rural area teachers (M = 12.72, SD =1.54, N = 70): [t (138) = -0.494, p = 0.311, p>0,05]. These results indicate that the teachers’ origin environment does not influence the rational–emotional learning style (Tab. 3).

		Levene's Test for Equality of Variances		t-Test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Stilulational EMOTIV	Equal variances assumed	.004	.952	-.494	138	.622	-.12857	.26005	Lower	Upper
		Equal variances not assumed			-.494	137,999	.622	-.12857	.26005	-.64278

**Tab. 3:** *The differences between teachers' areas and emotional learning styles*

In order to see if there is a statistical difference between the teachers in the two areas, urban and rural, regarding the organized–flexible learning style, we applied the *t*-test for independent samples. The results showed that there is no significant difference between the urban area teachers ( $M = 26.50$ ,  $SD = 2.77$ ,  $N = 70$ ) and the rural area teachers means ( $M = 26.52$ ,  $SD = 3.08$ ,  $N = 70$ ): [ $t(138) = -0.058$ ,  $p = 0.477$ ,  $p > 0.05$ ]. These results reveal the fact that the teachers' origin environment doesn't influence the organized–flexible style. Thus, hypothesis no. 1 according to which “*There is a difference between the urban and rural areas teachers regarding the learning styles*” is invalidated.

**Hypothesis no. 2:** There is a positive correlation between the supplementary effort of the teachers and their efficiency as leaders.

In order to analyze the relation between the “teachers' extra effort” variable and “their efficiency as leaders,” we did a Pearson correlation analysis, in SPSS. The results proved that there is a positive correlation between the two variables: [ $r = 0,630$ ,  $N = 140$ ,  $p = 0,000$ ]. Along with the increasing effort of the teachers, their efficiency as a leader will increase. The intensity of the correlation is high. The results graphical representation is revealed in the Scatter Graphic below (Tab. 4). The hypothesis is confirmed.

**Tab. 4:** *Correlations between extra effort and leadership satisfaction*

		Supplementary effort	Leadership related satisfaction
Extra Effort	Pearson Correlation	1	,630**
	Sig. (1-tailed)		,000
	N	140	140
Leadership related satisfaction	Pearson Correlation	,630**	1
	Sig. (1-tailed)	,000	
	N	140	140

\*\* . Correlation is significant at the 0.01 level (1-tailed).

**Hypothesis no. 3:** The lack of teachers’ involvement negatively correlates to the leadership-related satisfaction.

In order to analyze the relation between, “the lack of the teachers’ involvement” and “the leadership related satisfaction,” we did a Pearson correlation analysis, in SPSS. The results proved that there is a negative correlation between the two variables: [r = -0.209, N = 140, p = 0.007]. As the teachers avoid involvement, they will generate less interpersonal satisfaction in the interaction with others. The graphic representation of the result is presented in the Scatter graphic below (Tab. 5). The hypothesis is confirmed.

**Tab. 5:** Correlations between avoid involvement and leadership satisfaction

		<b>Avoid involvement</b>	<b>Give leadership related satisfaction</b>
Avoid involvement	Pearson Correlation	1	-,209**
	Sig. (1-tailed)		,007
	N	140	140
Give leadership related satisfaction	Pearson Correlation	-,209**	1
	Sig. (1-tailed)	,007	
	N	140	140

\*\* . Correlation is significant at the 0.01 level (1-tailed).

**Hypothesis no. 4:** Age categories influence teachers’ leadership style.  
*Transformational leadership scales:*

- o IA = *idealized attributes* (builds trust);
- o IB = *idealized behaviors* (acts with integrity);
- o IM = *inspirational motivation* (inspires the others);
- o IS = *intellectual stimulation* (encourages innovative thinking);
- o IC = *individual appreciation* (develops people).

**Hypothesis 4.1.:** Age influences innovative thinking encouragement.

In order to test the hypothesis “Age influences innovative thinking encouragement,” we applied the One-Way ANOVA analysis in SPSS. The results proved that there is a significant difference between the levels of the “age” variable according to “innovative thinking encouragement”: [F (2, 137) = 0,394, p>0,05]. The hypothesis is infirmed (Tab. 6)

**Tab. 6.** *Encourages innovative thinking*

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	57,185	2	28,592	,394	,675
Within Groups	9937,203	137	72,534		
Total	9994,387	139			

**Hypothesis 4.2.:** Age influences trust building

In order to test the hypothesis according to which “Age influences trust building” we have done the One-Way ANOVA analysis in SPSS. The results indicated that there is no significant difference between the levels of the “age” variable according to “trust building” variable:  $[F(2, 137) = 0,602, p > 0,05]$ . The hypothesis is infirmed (Tab. 7)

**Tab. 7.** *Values for build trust*

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	53,305	2	26,652	,602	,549
Within Groups	6068,779	137	44,298		
Total	6122,083	139			

*Transactional leadership scales:*

- o CR = *situational reward* (rewards the results);
- o MBE-A = *management by exception: active* (monitors mistakes).

**Hypothesis 4.3.:** Age influences results rewarding.

In order to test the hypothesis “Age influences results rewarding,” we did the One-Way ANOVA analysis in SPSS. The results revealed that there is no significant difference between the levels of the “age” variable according to the “results rewarding” variable:  $[F(2, 137) = 0,232, p > 0,05]$ . The hypothesis is infirmed (Tab. 8).

**Tab. 8.** *Rewards the results*

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	27,735	2	13,868	,232	,793
Within Groups	8172,385	137	59,652		
Total	8200,120	139			

**Hypothesis 4.4.:** Age influences mistakes monitoring.

In order to test the hypothesis “Age influences mistakes monitoring,” we did the One-Way ANOVA analysis in SPSS. The results proved that there is no significant difference between the levels of the “age” variable according to “mistakes monitoring”: [F (2, 137) = 1,339,  $p > 0,05$ ]. Hypothesis is infirmed (Tab. 9).

**Tab. 9.** *Monitors mistakes*

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	271,183	2	135,591	1,339	,265
Within Groups	13868,642	137	101,231		
Total	14139,825	139			

*Passive / Avoidant Leadership scales:*

MBE-P = *management by exception: passive* (combats problems);

LF = *permissive management* (avoids involvement).

**Hypothesis 4.5.:** Age influences involvement avoidance.

In order to test the hypothesis “Age influences involvement avoidance,” we did the One-Way ANOVA analysis in SPSS. The results indicated that there is no significant difference between the “age” variable according to the “involvement avoidance” variable: [F (2, 137) = 0,268,  $p > 0,05$ ]. The hypothesis is infirmed (Tab. 10).

**Tab. 10.** *Avoids involvement*

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	44,490	2	22,245	,268	,765
Within Groups	11369,133	137	82,986		
Total	11413,623	139			

### 3.5. Conclusions

In conclusion, the present research aimed at discovering how the teachers’ leadership and learning styles interact in order to get an effective school management.

After the results analysis, two of the hypotheses were confirmed and two infirmed. Thus, the results of the research were the following:

- There is no significant difference between the urban and rural areas teachers regarding the learning styles use;

- The teachers' supplementary effort will increase their efficiency;
- As the teachers will avoid involvement, they will generate less interpersonal satisfaction in the interaction with the others;
- The teachers' leadership style is not influenced by the age categories.

As a conclusion, the research approached an up-to-date theme which aims at assessing how both teachers' learning and leadership styles help in conducting an efficient school management.

### **3.6. Discussions. Research limitations and future analysis directions**

Many difficulties have arisen along this research regarding: the refusal of the selected persons to fill in the questionnaires, the possible lack of answers' honesty and the incomplete filling in of some questionnaires. These limitations do not have a major impact on the conclusions resulted from the analysis we did.

The results of this research can be the base of a more thorough research on a larger and more varied sample. It is also recommended to introduce the *gender* (*male/female*) variable in order to identify more detailed answers to the already existent research questions or in order to establish new subjects that could be analyzed in the future.

As mentioned in literature (Avolio, 1999; Clipa & Greiuc, 2018a; Gunter, 2001; Rile, 2006; Tenney & Gard, 2017; Zheng, Yin, & Wang, 2018), transformational leaders (democratic style) ensure a greater efficiency and satisfaction, compared to leaders that adopt transactional and passive styles. To achieve performance in the act of teaching, teachers with the transformational style have a very positive attitude upon the learning process and development of their own personality, inspire others (Leary-Joyce, 2008; Santamaria & Santamaria, 2013; Stolovitch & Keeps, 2017) and appreciate the students' behavior regarding the development of their personalities (Tenney & Gard, 2017; Weiner, 1985) (especially emotional side).

As a conclusion, even if leadership and management are different, they are equally important in the circumstances in which the educational institutions aim at achieving the suggested objectives, efficiency, very good and positive organizational climate.

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## **Chapter 4 Efficiency of the Use of ICT in Teaching Activities**

**Abstract** This chapter aims to evaluate the level of technology integration in the classroom by teachers, as well as the use of information and communication technology in the didactic activity. There are many new trends in the Romanian educational system, and in order to achieve them, it is necessary to develop ICT standards. The purpose of this chapter is to investigate, with the help of scientific research, the level of technology integration in the teacher professional development with respect to ethical principles. The chapter is based on a quantitative research methodology, which uses surveying as a method, the working tool being the questionnaire. The obtained results highlight the existing problems in schools regarding IT equipment, their purchase/cost, and their use in the instructional process. However, teachers are more open and willing to teach using ICT. In conclusion, there are limitations to the use of ICT, which can be removed only by maintaining an essential role of the teacher in the acquisition, processing and use of information, for acquiring the aptitudes and practical skills as well as the acquisition of IT equipment.

**Keywords:** ICT, IT, technology, integration, ethic, use.

### **4.1. Introduction**

The chapter assessed the extent to which teachers' integrated technology in the classroom and its use in teaching, aimed at identifying the students' behavioral changes and the way teaching changed because of ICT, analyzing comparatively the years 2009 and 2020. On the other hand, the study highlighted the internal and external barriers in using technology within the classroom. It was intended to see the evolution of IT equipment endowment in schools, teachers' acceptance and usage of ICT benefits, how using computers in the classroom influences students and teachers and, finally, what professional training teachers receive in this specialty.

“All over the country there are specific examples of technology use in classrooms, but the real challenge is creating a learning environment technologically sustained and favourable for each student” (Ceobanu, 2016, p. 7). Most of the technology use reasons are related to its attractiveness as an instrument to achieve the educational objectives, and the facilitating of the learning process (Scherer & Siddiq, 2015).

The teachers noticed a positive effect of the technology on learning, which was related to the students’ involvement and motivation (Heitink et al., 2016; Moreira-Fontán et al., 2019). It was observed that technology stimulates complex processes, thus different materials were made available to the students, which facilitated the understanding of certain phenomena or concepts, difficult to explain through other means (Ceobanu, 2016). The achievement of ICT capitalization principles leads to forming and developing student’s musical competences, by correlating with student-oriented teaching strategies and technologies (Hîncu, 2019). On the other hand, some teachers assert that they were glad to see the children improve their understanding of concepts (Zarzour, Bendjaballah, & Haririche, 2020) or developing content knowledge and the specific abilities as well as an improvement of the learning results, to preschool children, for example, in order to assimilate sciences (Furman et al., 2019).

For teachers, using ICT in education can be considered an efficient facilitator in order to create access, storage, transmission and manipulation of different information, audio and video, because of its abilities to establish a proactive teaching and learning environment. The educational community is affected by the impact of the new prominent and essential for communication informational technologies, which are more and more integrated in the pedagogical practices and methods allowing to consider new directions, improve or even transform them (Ali, 2020). ICT in education can be used for different purposes: as active teaching and learning through student’s involvement (Ghavifekr & Quan, 2020; Huda, Yulisman, Nurina, Erni & Abdullah, 2018), or helps in lesson planning, as Zucker would point out since 2008.

Teachers must plan student-centered activities that involve students as they process knowledge, and encourage critical thinking skills in acquiring information, because a great amount of information from numerous sources can mislead students (Liu, 2011).

UNESCO, in a recent document (2020), underline the competences for using ICT for teachers and how it is possible to develop this on teacher training courses. **The competences for ICT supposed to understand national policies about new technology in education, how to apply the curriculum, assessment, pedagogy, management of education, administration, and professional development.**

**All of this are three-level integration in teacher personality: knowledge acquisition, knowledge deepening and knowledge creation.**

In the last 20 years, many studies aimed to assess whether ICT use in the classes is efficient or not. Some studies were focused on technology as means of learning improvement (Carle, Jaffee, & Miller, 2009; Cutrim, 2008; Mann, 2008), while others were focused on technology integration, concluding that technology use in education brings benefits to the students (Gülbahar, 2007; Kim & Hannafin, 2011). Although positive results in technology use were shown (Chen, 2008; Ertmer, 1999; Furman et al., 2019; Hîncu, 2019; Palak & Walls, 2009), there are still external and internal obstacles (Ertmer, 1999) in its implementation in the classroom. Some studies identified the lack of resources, such as equipment (Cuban, 1993; Ertmer, 1999, 2005; Fät & Labär, 2009; Park & Son, 2009), improper integration of technology into training (Chen, 2008; Ertmer, 1999; Palak & Walls, 2009) or even worse, the teachers' refusal to integrate technology in instruction (Hermans et al., 2008). Teachers are the glue between technology use and the students, studies proving that teachers' convictions play an essential role within the success of technology integration (Ertmer, 1999, 2005; Hermans et al., 2008; Tondeur, van Keer, van Braak, & Valcke, 2008) or indirectly influence technology use (Chen, 2008). "The educational system is partially prepared, some of the teachers don't have enough information and specific skills for computer assisted training" (Botnariuc et al., 2020). In a study in 2018, Huda said that technology integration in learning activities is useful to improve learning quality and increase students' digital alphabetization. Technology is useful to create a learning and work environment for the twenty-first-century students, helping them develop co-operation, communication abilities, problem-solving skills and support continuous learning (Huda et al., 2018). In 2017, in *Educating digitally competent teachers: A study of integration of professional digital competence in teacher education*, Instefjord and Munthe highlighted recent research indicating a discrepancy between digital requirements and teachers training in technology use (Gudmundsdottir & Hatlevik, 2018; Instefjord & Munthe, 2017). For the technological integration to take place, the teachers need access to relevant materials, workplace assistance/support and positive attitudes towards technology (Ertmer, 1999; Kopcha, 2012). However, the success of the distance learning education is "a resultant of a collaborative effort between the teacher, system engineer, school manager, performativity of the communication network and not an exclusive attribute of the teacher" (Botnariuc et al., 2020, p. 47).

## **4.2. Scope**

This chapter aims to identify the degree of technology integration into the teaching activity and its impact on students and teachers, between 2019 and 2020 as compared to 2009, through the same questionnaire.

The research objectives were highlighting teachers' opinions regarding technology incorporation in teaching activity, as well as their teaching experiences assessment, observing the influence of information and communication technology on teachers and students from a socio-cognitive behavior point of view, highlighting the necessary factors for ICT efficient use in school, and the problems encountered while using ICT in the classroom.

## **4.3. Research methods**

### **4.3.1. Who was part of the study?**

A number of 211 teachers from different educational levels took part in the study, the make-up of participants being 82, 90 % women and 16, 70 % men, while 54 % were from urban areas and 46 % were from rural areas. The average work experience of the questioned subjects was 17 years.

### **4.3.2. Research instruments**

The chapter is based on a quantitative research, using investigation method, the research instrument being the questionnaire. This was applied to the teachers and comprised 20 items, which were being developed by Intel Tech for a more extensive research and used in many countries aiming at seeking ways teachers use technology in education. Among the items used, it was intended to highlight the material resources that ensure the use of the informatics data base, the identification of the impediments in technology implementation, which subjects are privileged in using the technology advantages, what impact it has on intellectual and socio-affective behavior of the students using ICT, how technology influences the teaching – assessment methods used by the teachers, how much support is needed for ICT integration programs in education, what is the level of training the teachers require in technology use, and if this helps in making teachers more desirable when the teachers are seeking employment. Semi-objective items with short answer were used in the case of demographic data, multiple choice items to find out the school's IT equipment level and the time they are used by the teachers in classes, linear scale items from 1 to 5 through which it

was intended to emphasize the influence of computer use on the students' and teachers' behavioral modifications.

The results were processed in SPSS and Excel and then compared to the results from 2009 by Silvia Făt, a teacher certified in Psychology and Educational Sciences, Bucuresti University and Adrian Vicențiu Labăr, a teacher at Al. I. Cuza University, Iași, Psychology and Educational Sciences in "Assessment research report" – *Efficiency of new technologies use in education*.

### **4.3.3. Procedure**

The study was conducted between December 2019 and February 2020. The participants were teachers from kindergartens, primary school, middle school, and high school from Botoșani, Suceava and Neamt Counties. They were asked to fill in the 21 items questionnaires in letter format. Teachers were ensured confidentiality for their answers.

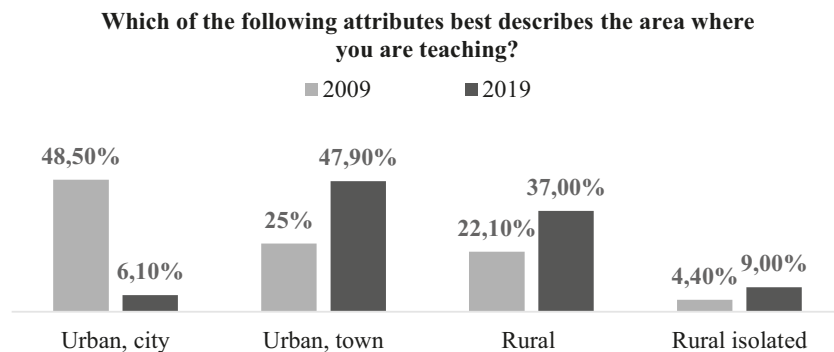
## **4.4. Results**

Most of the interviewed teachers were aged between 30 and 50 years old: 9 % between 21 and 29 years old; 32,2 % between 30 and 39 years old; 39,80 % between 40 and 49 years old, and 19 % were over 50 years old. The majority of the participants have Ist – 43,1 % and IInd instructional degrees – 42,7 % while 6,6 % – tenure and 7,6 % – beginners (Tab. 1). The average seniority in education is 17 years. As expected, female teachers have answered the questionnaire in higher percentage than male teachers – 82,90 % – female, 16,70 % – male (Tab. 1).

**Tab. 1.** *The distribution of responding teachers in relation to the considered variables*

Variable	Percentage	
	2009	2019
<b>Age class</b>		
21–29 years	5,9 %	9,00 %
30–39 years	33,8 %	32,20 %
40–49 years	36,8 %	39,80 %
50 years or older	23,5 %	19,00 %
<b>Teaching area</b>	48,5 %	6,10 %
Urban, large city (over 150 000 loc.)		
Urban, small city	25 %	47,90 %
Rural	22,1 %	37,00 %
Rural, in villages and isolated schools	4,4 %	9,00 %
<b>Teaching degree</b>	1,5 %	7,60 %
Debutant		
Permanent teacher certification	19,1 %	6,60 %
2nd degree	26,5 %	42,70 %
1st degree	52,9 %	43,10 %
<b>Gender</b>	23,5 %	16,70 %
Male		
Female	76,5 %	82,90 %

Amongst the interviewed teachers, 6,1 % teach in large cities, 47,9 % in small cities, 37 % in rural areas and 9 % in rural isolated areas. Contrary to 2009, when the highest percentage was represented by teachers from large cities (48.5 %), in 2019 most of the interviewed teachers were from small cities 47,9 % with only 6,2 % from large cities (see Chart 1).

**Chart 1.** *Teachers' distribution in relation to teaching area*

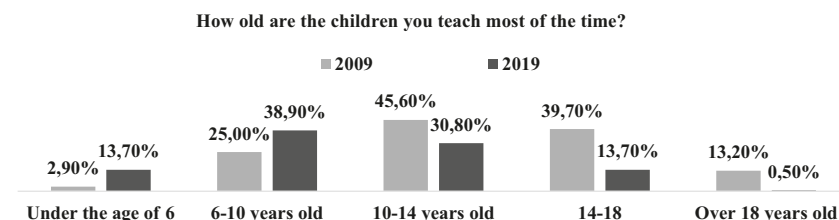


The age and education level of the children taught by the interviewed teachers in 2019–2020 is less than 10 years for 50 %, meaning kindergarten and primary education, with less access to a computer, 30,8 % are children between 10 and 14 years old, while 22.1 % are in high school (see Tab. 2).

**Tab. 2.** *The age of children taught by the interviewed teachers*

<i>Variable</i>	<i>Percentage</i>	
	<b>2009</b>	<b>2019</b>
Age class		
Under 6 years	2,9 %	13,7 %
6–10 years	25,0 %	38,9 %
10–14 years	45,6 %	30,8 %
14–18 or older	39,7 %	13,7 %
Over 18	13,2	0,5 %

Unlike 2009, when the majority of children (45,6 %) were between the ages of 10 and 14 years and 39,7 % were in high school, in 2019–2020 children from primary classes (38.9 %) and gymnasium (30.8 %) were predominant (see Chart 2).



**Chart 2.** *Graphical presentation of teachers' response to item: "How old are the children you teach most of the time?"*

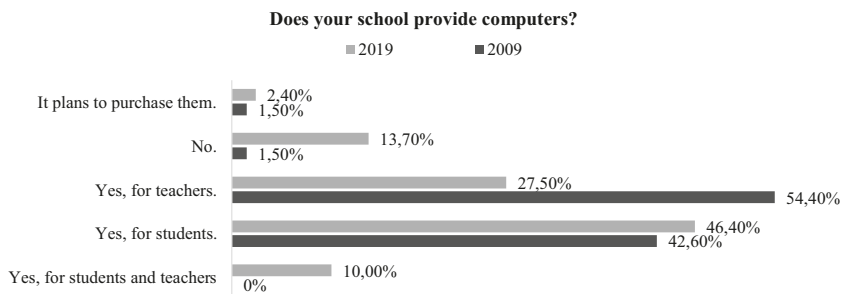
At the question *What is the infrastructure at the schools you teach in?*, most of the teachers, 46,4 %, assert that in 2019–2020, the schools are equipped with computers for students, less for the teachers, 27,5 % and only 10 % assert that their school is equipped with computers for both students and teachers. Worst is that 13,7 % state that in their school, there are no computers (see Tab. 3).

**Tab. 3.** *Computer-equipped schools*

<i>School infrastructure related aspects</i>	<i>Percentages</i>	
	2009	2019
<b>Is your school computer-equipped?</b>	0 %	10,0 %
Yes, for both students and teachers		
Yes, for students	89,7 %	46,4 %
Yes, for teachers	54,4 %	27,5 %
No	1,5 %	13,7 %
It is intended to	1,5 %	2,4 %
<b>Do you use computers as part of the classroom activities?</b>	94,1 %	85,8 %
Yes		
No	5,9 %	14,2 %
<b>If yes, we talk about a:</b>	15,6 %	3,3 %
Desktop computer (personal for each student)		
Desktop computer (for more students in a normal classroom)	28,1 %	31,8 %
Desktop computer (for more students in a Computer Science laboratory)	51,6 %	12,3 %
Laptop (personal for each child)	0 %	0,9 %
Laptop (for more students in a normal classroom)	21,9 %	34,6 %
Laptop (for more students in a Computer Science laboratory)	1,6 %	3,3 %
<b>Each student should have a laptop as a personal learning instrument?</b>	85,5 %	80,1 %
Yes		
No	14,5 %	19,9 %

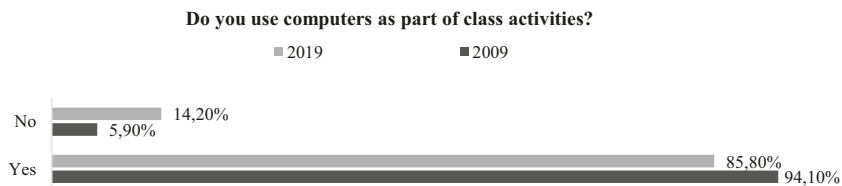
It is a serious problem that in 2020 there are schools that are not computer equipped for students and teachers, especially when it is obvious that the use of IT instruments is more and more important. There are schools that don't have computers for the classroom, but only a laboratory at the best but which is usually taken by ICT and Informatics classes. When comparing the situation of the computers in schools, it can be noticed that in 2009 a percentage of 54,4 % is represented by providing computers for the teachers and 42,6 % for the students while in 2019 the percentage is slightly different, meaning that 46,4 %

are computers provided for the students and 27,5 % for the teachers. This time appears a percentage of 10 % which asserts that schools provide computers for both teachers and students (see Chart 3).



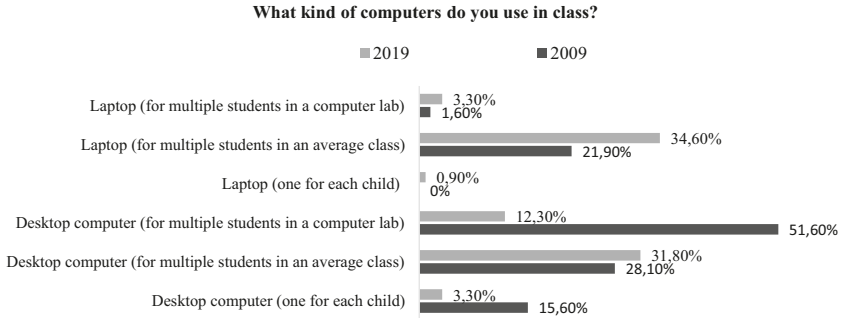
**Chart 3.** *The way computers are distributed in schools*

Teachers were asked if they use computers in classroom. In 2009, 94,1 % of them answered affirmatively as compared to 2019 when the percentage dropped to 85,8 %. The explanation would be that many of the interviewed subjects in 2019 are kindergarten educators. The sad part is that in 2019, 14,2 % of the teachers do not use IT-based instruction – learning methods. This happens either because of the lack of IT equipment or of the insufficient training in this area (Chart 4).



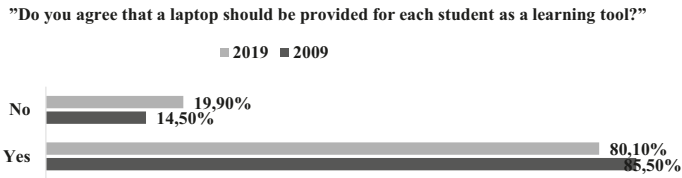
**Chart 4.** *Do you use the computers as part of class activities?*

The percentage of the computer use in the Informatics lab in 2009 is of 51,60 % unlike 2019–2020 where it drops to 12,3 %. In 2019–2020, the most frequently met situation is the use of a laptop, 34,6 %, or one desktop computer for more students in a class 31,8 % (see Chart 5).



**Chart 5.** Models of computer use for teaching activities

In 2019–2020, 80,1 %, of the teachers think it is necessary that each student should have a personal laptop, being acknowledged the increasing need for their use. However, the number of those asserting this in 2019 is less than in 2009, which was 85,5 %. The inadequate equipping of the schools is unfortunately still relevant, as it was the case ten years ago (see Chart 6).



**Chart 6.** Graphic presentation of the percentages of the teachers’ answers at the item “Do you agree that a laptop should be provided for each student as a learning tool?”

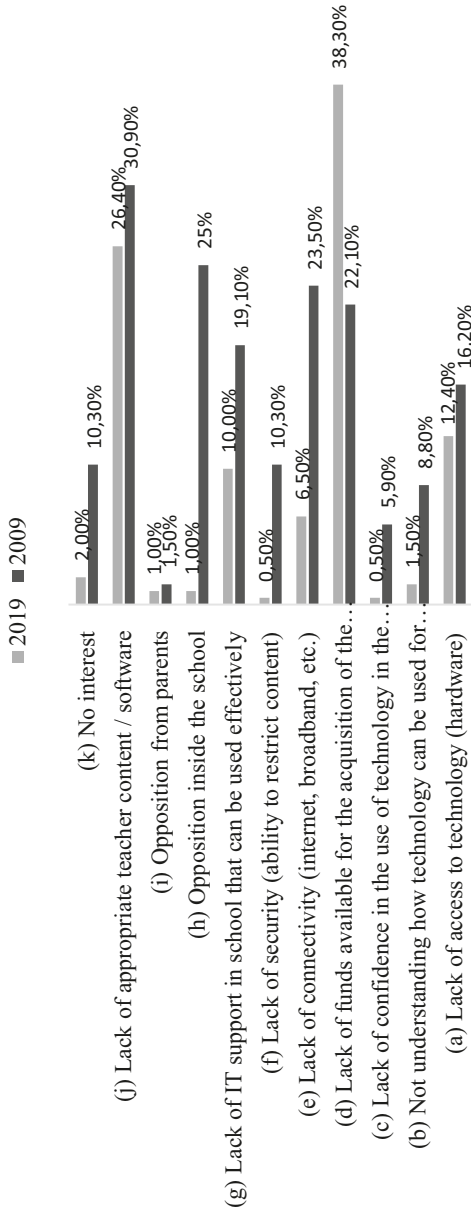
The use of technology in class meets several difficulties, although at European level the research proves that there are benefits as a result of technology use in schools. In many Romanian schools, there are serious problems related to IT equipping, as 38,3 % of the teachers reported in 2019–2020. Another problem would be the lack of content/educational programs and software – 26,4 % (see Tab. 4). This last statement is surprising since it is known that from year to year many materials and online software are created and they can be successfully used in teaching.

**Tab. 4.** *Obstacles in ICT use in school activity*

<b>Impedes factors</b>	<b>2009</b>	<b>2019</b>
(a) Lack of access to technology (hardware)	16,2 %	12,4 %
(b) Misunderstanding of the way technology can be used in teaching	8,8 %	1,5 %
(c) Lack of trust in technology use in class	5,9 %	0,5 %
(d) Lack of available funds to purchase technology	22,1 %	38,3 %
(e) Lack of connectivity (internet, broadband etc.)	23,5 %	6,5 %
(f) Lack of security (the ability to restrict the content)	10,3 %	0,5 %
(g) Lack of IT support in school that can be efficiently used	19,1 %	10,0 %
(h) Resistance from inside the school	25 %	1,0 %
(i) Parents resistance	1,5 %	1,0 %
(j) Lack of some appropriate contents/software for teachers	30,9 %	26,4 %
(k) Lack of interest	10,3 %	2,0 %

In 2009, the biggest problem was the lack of educational contents, 30,9 %, followed by 25 % standing for the resistance from school and 23,5 % the lack of connectivity. A positive aspect noted in 2019 was the lack of impediments from school, parents or doubts regarding the trust in ICT use in the didactic process (see Chart 7).

**What prevents you from using computers in your school?**



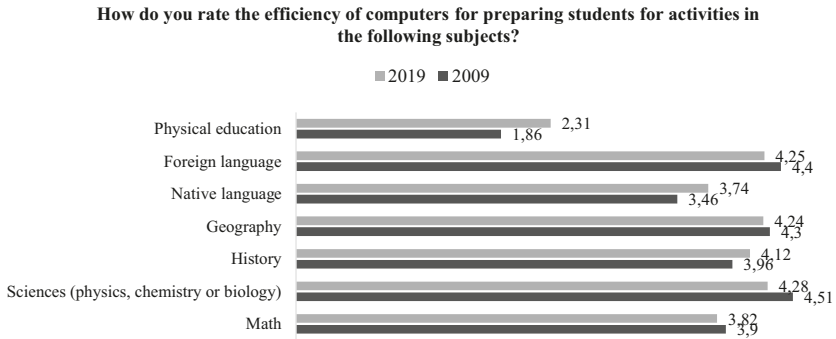
**Chart 7.** Obstacles in using IT equipment in school

The opinions were divided when asked about the efficiency or inefficiency of ICT use in different classes. A number of 53,60 % of the interviewed teachers answered that on sciences efficiency is better, unlike Sports where efficiency would be about 8,87 % (Tab. 6). Sciences, Foreign languages, Mathematics, Geography, History, have the advantage of using various teaching methods, for example, using e-learning programs, which allow modelling some phenomena, can replicate certain experiments hard to do in the laboratory; using charts, tables and images can make the lessons better and easier to understand. In 2009/2019–2020 the results regarding technology efficiency in different classes were as follows: mean scores 1,86–4,51/2,31–4,28; standard deviation was 0,66–1,14/0,86–1,26 and the variance 0,44–1.31/0,75–1,30.

**Tab. 6.** *The mean, standard deviation and variance in the case of teachers' assessments regarding the computer efficiency in students' education in order to prepare activities at different subjects*

	Mean		Standard deviation		Variance	
	2009/2019		2009/2019		2009/2019	
Mathematics	3,90	3,82	1,14	1,00	1,31	1,01
Sciences (physics, chemistry or biology)	4,51	4,28	0,66	0,96	0,44	0,93
History	3,96	4,12	0,93	0,92	0,87	0,84
Geography	4,30	4,24	0,79	0,86	0,63	0,75
Native language	3,46	3,74	1,13	1,14	1,29	1,30
Foreign language	4,40	4,25	0,80	0,97	0,64	0,95
Sports	1,86	2,31	1,03	1,26	1,07	1,26

Both in 2009 and 2019, the interviewed teachers considered that all the subjects are assisted by ICT use, especially sciences and foreign languages. Sports would be less in advantage, although, in 2019, there are teachers that use a computer at this subject too. Below are presented in a chart the scores for the mean in the case of teachers' assessments regarding the computer use efficiency for students training in different subjects (see Chart 8).



**Chart 8.** *The opinion of the teachers regarding computer efficiency for school subjects*

As a result of the last year’s studies, positive impact on the instructional process was noted as a result of ICT use.

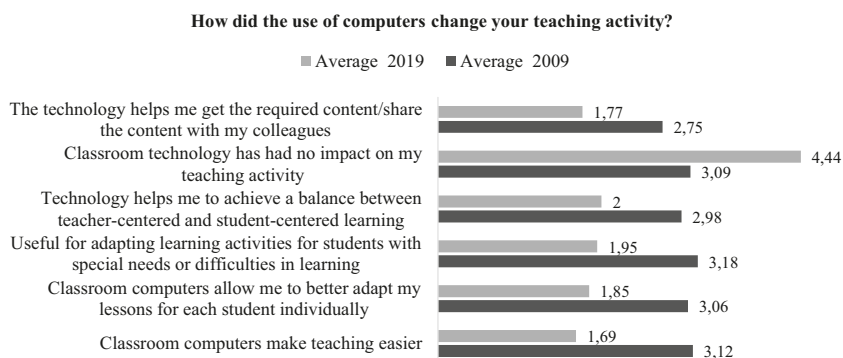
Analyzing the percentage totals resulted from this study, when posing the question, “*How did computer use change your teaching?*,” the following answers were recorded: computers in class make teaching easy – 69,8 %; technology helps teachers acquire mandatory contents and share them with their colleagues 63,7 %, computers are especially useful to adjust the teaching activities for students with special needs or learning disabilities, 43,6 %. Unlike 2009 when 45,3 % were saying that “*Technology in class had no impact on my teaching,*” in 2019, their percentage decreased to 8,4 %. The explanation can stand in the fact that teachers became aware that, many times, technology comes to support teaching more than we want to admit. In the table below are presented the mean, standard deviation and variance resulted from the teachers regarding the technology impact on them (see Tab. 8).



**Tab. 8.** Mean, standard deviation and variance in the case of teachers' assessments regarding ICT use in the instructive educational activity

How did computer use change your teaching? With which of the following assertions do you agree?	Mean		Standard deviation		Variance	
	2009	2019	2009	2019	2009	2019
Computers in class help teaching	3,12	1,69	1,76	1,24	3,10	1,54
Computers in class allow me to better adjust the lessons for each student individually	3,06	1,85	1,58	0,97	2,49	0,95
Useful for the adjustment of the learning activities for students with special needs or learning disabilities	3,18	1,95	1,48	1,09	2,20	1,19
The technology helps me obtain a balance between the teacher-oriented learning and the one oriented on the student	2,98	2,00	1,71	1,02	2,92	1,04
Technology in class had no impact on my teaching activity	3,09	4,44	1,83	1,23	3,36	1,51
Technology helps me obtain/share mandatory contents with my colleagues	2,75	1,77	1,41	1,20	1,99	1,40

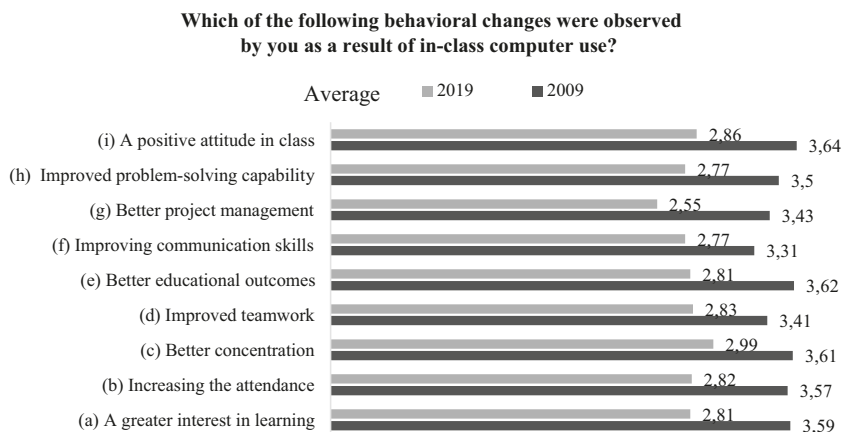
Graphic representation of the mean, standard deviation, variances value resulted in the case of teachers' assessments regarding the ICT use impact on the instructive-educative activity in the two studies (see Chart 9). It is clearly observed that the majority of the teachers agree that technology had an impact on their teaching, succeeding to a great extent to achieve a balance between student-oriented learning (which is desirable) and the teacher-oriented one (classic).

**Chart 9.** The impact of ICT use in the instructive-educative activity

“Which of the following behavioral modifications were noticed as a result of computer use in class?” This question aimed at recording the impact on the students’ behavioral level as a result of ICT use in classes. It was noted a positivity in many directions: in the students’ best interest to learn 28,7 %, in projects management improvement 28,2 %, in the positive attitude in classes 24,3 %, in team work 23,8 %. Compared to 2009, an increase of the positive results is noticed if we refer to the interest in learning – 28,7 % as opposed to 37,5 %, full-time study – 23,3 % as opposed to 37,5 % and even at getting better results 17,7 % as opposed to 31,1 %. It is possible that this interest has dropped because of the mobile phones existence which can give just as much information of IT knowledge for the student to come home with. In the table below, there are presented the values of the mean, standard deviation and variances, comparatively for 2009 and 2019–2020. The results for the mean: 3,31–3,62/2,55–2,99; standard deviation: 1,23–1,48/1,23–1,49 and variance: 1,51–2,38/1,51–6,64 (see Tab. 9).

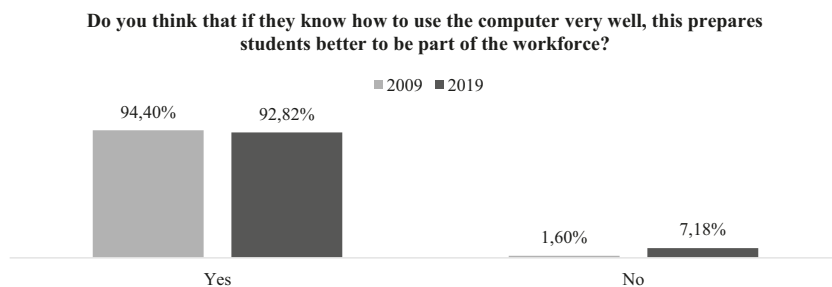
**Tab. 9.** Mean, standard deviation and variance in the case of teachers’ assessments regarding the behavioral modifications noticed at the students’ level as a result on computer use in class

Which of the following behavioral modifications were noticed by you as a result of computer use in class?	Mean		Standard deviation		Variance	
	2009	2019	2009	2019	2009	2019
(a) A greater interest in learning	3,59	2,81	1,43	1,49	2,06	2,23
(b) Increase classes frequency	3,57	2,82	1,48	1,37	2,19	1,89
(c) A better focusing	3,61	2,99	1,23	2,57	1,51	6,64
(d) It is better to team work	3,41	2,83	1,54	1,37	2,38	1,87
(e) Better educational achievement	3,62	2,81	1,24	1,23	1,55	1,52
(f) Improving communication competences	3,31	2,77	1,33	1,23	1,78	1,52
(g) A better projects management	3,43	2,55	1,47	1,30	2,16	1,70
(h) Improved ability to problem solving	3,50	2,77	1,34	1,27	1,81	1,62
(i) A positive attitude in class	3,64	2,86	1,47	1,43	2,18	2,04



**Chart 10.** Graphic presentation of the averages in case of teachers' assessments regarding the behavioral changes observed at the students' level as a result of the use of computers in the classroom

If we refer to the education and professional insertion of the graduates, the usefulness of technology information and communications is acknowledged by most of the teachers, 92,82 %. It is known that for completing most job requirements in today's job market, technological component is its primary component. Even if the percentage is high, in 2009 this was greater 98,4 %. This might be due to the emergence of some occupations on the Romanian market in the last years that do not necessarily need ICT knowledge (see Chart 10).



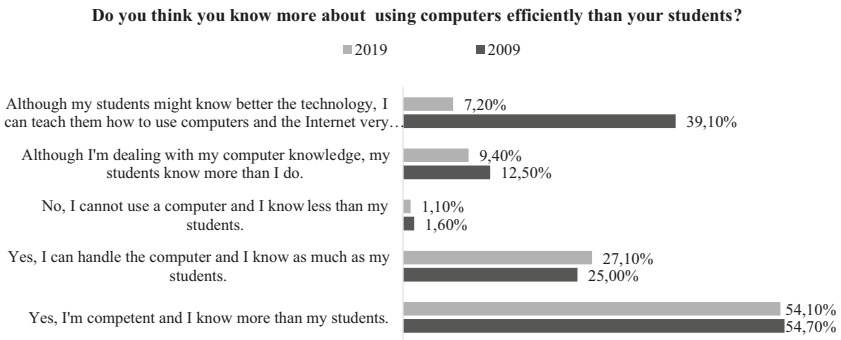
**Chart 11.** The importance of the competences in IT use for students professional training

It is discouraging that only half of the interviewed teachers in 2019–2020 think that they are able to use technology 54,1 %, while 7,2 % acknowledge that the students know more than them. Ultimately, there is a contradiction between what the teachers say and what is written in the research reports, meaning that it is shown as an even larger lack of teacher training for IT integration in classes (see Tab. 10).

**Tab. 10.** *Percentage distribution of the teachers' answers at the item regarding their own level in ICT use*

<b>Do you think that you know more about the efficient use of computers than your students? Which of the following statements do you agree with?</b>	<b>Percentages</b>	
	2009	2019
Yes, I am competent and know more than my students	54,7 %	54,1 %
Yes, I can handle the computer and I know as much as my students do.	25,0 %	27,1 %
No, I can't use a computer and I know less than my students do.	1,6 %	1,1 %
Although I can handle my computer skills, my students know more than I do.	12,5 %	9,4 %
Although my students might know better the technology, I can teach them how to you better use computers and internet.	39,1 %	7,2 %

In 2019–2020, only 7,2 % of the teacher's assert that their students know more than they do, unlike 39,1 % of them in 2009, which is good (see Chart 12).



**Chart 12.** *The degree of teachers' ICT use as compared to their own students*

On one hand, teachers think that when it comes to responsibility for equipment delivery, the government should do more (in a percentage of 88,89 %), while on the other hand, it is believed the school should obtain funds through some projects.

#### 4.5. Discussions

The results emphasize that the use of informational technologies is useful to the instructional-learning assessment process. The positive impact on students and teachers is a fact and this can be seen in both studies. In many countries, and in Romania as well, there are prepared strategies and national programs which stipulate ICT implementation in educational process at all levels, including requirement of digital textbooks and informatics resources as main material resources in class (Batanero, Rebollo, & Rueda, 2019; Clipa & Juravle, 2019). This study is important because it can be considered a documentation base, real, necessary for carrying out projects and new schooling program implementation in education.

It is important to raise awareness on the current status of Romanian schools because it is the only way to successfully implement the instructional-learning curricula strategies through educational software. Funds are still insufficient for acquiring IT equipment and teachers' poor training in using it is still present in many schools. Teachers should be informed and encouraged to train to develop ICT skills and competences or ethics principle of using ICT (Măță, Clipa, & Tzafilkou, 2020; Ghavifekr & Quan, 2020). In this manner, they will be prepared for classes and up to date with the changes in this field. The teacher's part stays the same, to acquire, process and use the information for the students' training and development of competences, skills and abilities to use ICT.

Society's development is based on information, in a world where globalization is trending (Ciurea, 2017, p. 227), it becomes obvious that the evolution of the informative technologies is extremely fast, especially by the fact that these are used in most areas of activity.

The matter in question is the training of the specialized workforce to use these technologies through learning, consolidation, and enhancement of the digital skills (Popov, 2019, p. 160; UNESCO, 2020). "The general impression is that the educational system in Romania passed the phase in which technologies were the privilege of a small number of teachers but generalizing their use did not reach yet a critical mass. The contribution of the interaction and pressure between equals at spreading new technologies in teaching is essential" (Balica et al., 2018).

In a recent study, dated March 2020, which resulted from the "mandated" need of the online schooling, teachers suggested that "their training has to be

oriented for the future not only towards learning contents but also towards the new technologies in the light of their integration, knowingly and to good use, in the learning process” (Botnariuc et al., 2020).

#### 4.6. Conclusion

As a result of this study between 2019 and 2020, the results give us an insight of what happens in some schools in Moldavia region if we refer both to the technical endowment and teachers’ involvement in technical equipment use and the way their use affects both students and teachers.

Though ten years have passed since similar research was conducted, no improvement can be noticed, as it should be, if we refer to ICT use in schools, a better material resource or teachers’ training regarding IT equipment use, applications, educational platforms and software. More seriously than that, it seems to be an involution. This can be due to the fact that a great percentage of the sample of the interviewed teachers teach in kindergarten and primary school, unlike the research in 2009 in which most of the teachers taught high school.

Most of the teachers are aware of the advantages educational software may bring to some classes, for a better understanding of some phenomena, experiments, and so on. However, they would rather not “complicate,” either because they don’t have the necessary equipment in school and they have to bring their own or they are not good with it.

Using ICT in classes leaves its mark both on students and teachers if we refer to the positive attitude, communication skills improvement, a better concentration, a greater interest in learning and even the increase of the attendance, the adjustment of the lessons for each student, a help in preparing the lessons and obtaining an equilibrium between both the student geared and teachers led instruction.

There is still a big problem with teacher training in efficiently using technology from various reasons: either they don’t want to learn how to use it or the training courses are not efficient or pure and simple some of them do not agree using these IT instruments.

This critic period was a wake-up call, when schools were closed, and the lessons were transferred online. Few teachers can do this, hence their need to attend courses in order to enhance skills and abilities to use technology. On the other hand, schools should consider this need more seriously and attract necessary funds for computer equipping of the laboratories and classrooms.

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## **Chapter 5 Teachers' Lived Experience of Official Employee Workplace Well-Being Support and Programmes**

**Abstract** The bulk of the research on workplace well-being support and programmes focus on the social, cognitive and behavioral constructs while investigations into their efficacy and specifically employees' perceptions of such programmes appear scant. This despite the view that perceived organizational support correlates strongly with programme utilization and success. This chapter thus explores South African teachers' lived experience of official support for their professional and personal well-being by way of utilization frequency and levels of motivation. We used a mixed methods design based on a self-constructed questionnaire sent to a small sample of teachers, using the snowballing technique. Findings suggest amongst others a low level of perceived organizational support for both a personal and professional well-being but with varying results for provincial, districts and school levels. These findings highlight teachers' lived experiences of support from the employer and workplace well-being programmes being inadequate. It also underscores the value of the employer taking note of teachers' perceptions to gauge programme efficacy to better equip them to manage workplace and personal challenges, to flourish as people and to deliver quality education.

**Keywords:** school wellness, perceived organizational support, job demands, job resources, personal resources.

### **5.1. Introduction**

Despite the proliferation of initiatives to improve the well-being of the workforce in public and private spheres worldwide, the verdict is out on how successful these are. Several types of programmes exist and an array of terms are used to label them. Employee assistance programmes (EAPs) and employee wellness programmes (EWPs) are the best known. EAPs are described as short-term workplace intervention programmes offering professional support to identify and

manage personal concerns affecting employees' performance and productivity (Sieberhagen, Pienaar, & Els, 2011). This includes physical and mental health, relationship and family problems, financial issues, ineffective coping behaviors such as substance abuse and uncollegiate conduct. EWPs are designed to create an awareness about, and encourage lifestyle changes (Sieberhagen et al., 2011).

In line with a broader definition of well-being encompassing eight aspects of employees' lives namely physical, mental, emotional, social, spiritual, financial, environmental and occupational welfare (Kruger, 2019), the authors have also included personal growth and professional development initiatives (PDI) as elements that affect workplace well-being. In this study, these three components, EAP, EWP and PDIs, are collectively referred to as workplace well-being programmes (WWPs).

Much research has been done with some advocating for such initiatives and others finding them wanting. Those in support hold that it bolsters the company's image; reduces absenteeism, healthcare costs and accidents; improves employer-employee relations, stress management, presenteeism, performance, morale, resilience and productivity, physical and mental wellness and employees' life and job satisfaction (De Greef & Van den Broek, 2004; Pescud et al., 2015; Sieberhagen et al., 2011; Street & Lacey, 2018). Critics, however, question whether it is worth the investment of money, time and energy into a non-core function of the organization and which is difficult to link to its performance. Doubters argue that few organizations have the know-how to develop and implement suitable and culturally sensitive programmes that make a real difference (Pescud et al., 2015; Shmerling, 2019; Spence, 2015).

Despite criticism, implementation of WWPs in private and public organizations, including the education sector globally, abound. Considering the resources expended, it is important that these programmes achieve what they set out to do. Wierenga et al. (2013) distinguish four contextual factors that determine the success rate of WWPs: (1) organizational culture and structure; (2) implementer; (3) programme and (4) participants. Outcomes are often not realized due to ineffectual alignment among these four factors, and what is more, when programmes lack clarity of purpose, measurable objectives are undetermined and the make-up and needs of the target audience is vague (Sieberhagen et al., 2011; Wierenga et al., 2013). Even fit-for-purpose programmes are bound to fail if not promoted adequately, and not evaluated to establish user satisfaction rates and personnel's reasons for (non)participation (Sieberhagen et al., 2011). Street and Lacey (2018, p. 1) on the other hand state that WWPs are most effective when "(1) based on scientifically valid constructs; (2) tailored to the meet the needs of individuals

and (3) perceived as both useful and enjoyable by participants.” Clearly, WWP should be research-informed.

## 5.2. Research gap

The bulk of research conducted on WWPs focus on the strategic, social, cognitive and behavioral constructs (Street & Lacey, 2018). Studies focusing on teachers tend to investigate well-being in relation to relationships with learners colleagues, administration and school leadership (Aldrup et al., 2018); intra-personal attitudes, behavior, collegiality (Shah, 2012); professional satisfaction, happiness, health, wellness and pedagogical well-being (Acton & Glasgow, 2015; Eldor & Shoshani, 2016; Peral & Geldenhuys, 2016; Wessels & Wood, 2019). However, despite having been identified as a factor that influence programme success and one that correlates strongly with approbation, participation and programme loyalty, employees' personal assessment of WWPs have received significantly less attention in both the private and the education sector (Pescud et al., 2015; Street & Lacey, 2018; Wierenga et al., 2013). The danger exists that the needs of management and programme designers', rather than the target audience's, are met resulting in negativity, disinterest, high levels of attrition towards programmes and eventual failure.

The impact of WWPs is also affected by teachers' perceptions of the general assistance they receive from authorities on provincial, regional and school level. Perceived organizational support (POS) refers to employees' general perception of how much an organization cares about them and how high their contribution is valued (Kurtessis et al., 2015). Organizational support theory holds that POS hinges on employees' interpretation of the employer's intent and is articulated as remuneration, and professional enrichment (Kurtessis et al., 2015; Roemer & Harris, 2018). Employees who deem their employer to be sincere in caring for them tend to have favorable perceptions of the organization's support (Aselage & Eisenberger, 2003). When they feel appreciated, they feel duty-bound to assist the organization in reaching its goals. This improves worker engagement and their psychological well-being. According to Kurtessis et al. (2015), POS is affected by the quality of the relationships between the workforce and organization, leadership conduct as well as human resource systems. Other reported factors that reinforce POS are fairness, leadership support, being rewarded and workplace conditions (Rhoades & Eisenberger, 2002). The organization's concern for the employees' well-being are formalized in policies and “human resources practices that facilitate meeting and balancing job demands, and demands outside work” (Roemer & Harris, 2018, p. 2).

In line with the Job Demand-Resource Model (JD-R), Roemer and Harris (2018) consider POS a job resource or a psychological features of the job that lowers job demands, prevent burnout and disengagement and has been shown to build personal resources such as self-esteem, optimism, goal realization, creativity and, important for this study, employees' perceptions of organizational support (Roemer & Harris, 2018; Xanthopoulou, Bakker, Demerouti & Schaufeli, 2007). Skaalvik and Skaalvik (2018) cite examples of job resources in the teaching profession: positive and supportive relationships, perceived justice, opportunities for personal and professional development, autonomy, belonging, and the organizational culture. POS as a job resource thus relates to overall well-being while protecting against negative aspects of a job and fostering positive emotions, gratitude, hope, efficacy, resilience and optimism. This, in turn, leads to higher levels of motivation, positive attitudes, success as well as increased POS. The upshot is work and life satisfaction. The relationship between job resources and personal resources is reciprocal: as personal growth expands, the individual's self-evaluation matures. This alters the way they perceive their work and the work environment which improves POS (Xanthopoulou et al., 2007).

### **5.2.1. Teacher well-being**

Teachers all over the world report high levels of stress and burnout. In South Africa, in particular, teachers find themselves at the intersection of structural problems related to provision of quality education and the broader socio-economic landscape, with mounting the demands on them (Wessels & Wood, 2019). This has been shown to negatively affect health, engagement and job satisfaction (Simbulaa et al., 2012; Wang & Geng, 2019). Reports in scholarly and popular media describe teachers as demotivated, highly stressed and generally not able to achieve the organizational goal namely to ensure quality education (Wessels & Wood, 2019). Causes of their distress vary from a lack of resources, classroom overcrowding, heavy teacher-to-learner ratios (between 1:40 to 50), excessive administrative duties, diverse cultural and psychosocial needs, exposure to bullying and sexual harassment from management, colleagues, learners and parents, violence at school and in the community (Jacobs & Teise, 2019; Mkuzo, 2020; Wessels & Wood, 2019). It is essential to nurture the well-being of teachers to better equip them to be supportive, caring and able to tackle the difficult circumstances they work in (Cherrington, 2017; Wessels & Wood, 2019).

Recently, these challenges have been amplified by the Covid-19 pandemic with school management, teachers, learners and parents having to adapt to a whole new way of schooling. These changes the material and social inequality in

South Africa and the high levels of anxiety and uncertainty put a lot of pressure on all parties, making an investigation into school well-being and teacher well-being, in particular, very topical.

Despite some misgivings about WWPs, improved teacher well-being has been linked to preventing burnout and chronic stress-related conditions (Hansen, Buitendach, & Kanengoni, 2015; Smetackova et al., 2019); managing job stressors like workload, classroom sizes and management issues and leading to job satisfaction, improved professional skills, and positive teacher leadership (Cherkowski, 2018). High levels of teachers' well-being can also help mitigate the emotional demands of interpersonal relationships with learners enhancing learning (Spilt, Koomen, & Thijs, 2011) and encouraging positive behavior (Roffey, 2012).

Against this background, we investigate the lived experiences of a small sample of South African teachers with regard to official WWPs.

### **5.2.2. Rationale**

This study builds on two previous investigations of teacher well-being in South Africa. The first of the two studies (Kruger & Jacobs, 2019) examine the articulation of South African legislation and policies pertaining to employee well-being, and teacher well-being specifically. Looking after the welfare of teachers in South Africa has been formalized in an array of legislation and policy documents and is mostly managed by human resources departments on a provincial and district level. WWPs are typically presented as EAPs, EWPs and PDIs (Kruger & Jacobs, 2019). The second paper (Kruger, 2019) explores the philosophical underpinnings of teacher well-being, using discourse analysis of two education progress reports. These studies show that a clear commitment exists to invest in teachers' personal and professional development but with the narrow, neoliberal aim of supporting them to deliver quality education in service of the national development goal of growing the South African economy (Jacobs & Teise, 2019; Kruger, 2019). Kruger (2019, p. 7) concludes that neoliberal approach to employee well-being tend to transfer the employer's obligations of supporting personal and professional well-being to the individual: "As a result, teacher well-being is transformed into teacher self-care, but specified and controlled by the employer." The current study completes the triad by investigating teachers' experience.

### 5.3. Research question and objectives of the research

In view of the policy directives from authorities to develop WWP's responsive to the needs of the employees, and recognizing the dearth of research on teachers' perceptions of WWP's offered by authorities, we pose the following question: *What are teachers' lived experience of official employee workplace well-being programmes and the general support they receive?* In order to respond to the question, we will:

- 1) Explore teachers' perceptions and experience of the general support offered by the authorities as well as support via official WWP's, and
- 2) Analyze the frequency of, and motivation for participation in WWP's provided by authorities.

### 5.4. Research methods

#### 5.4.1. Research approach: Mixed methods

We used a mixed methods design (quant-QUAL), using a small sample of teachers. While the nature of the study is largely qualitative, we used some quantitative data to provide an overview on the perceptions of the participants, before discussing their views in detail.

#### 5.4.2. Instrument: Digital self-constructed questionnaire

Data was collected through a self-constructed questionnaire, drawing from literature. The questionnaire contained open and closed questions in line with a mixed methods design, and focused on specific aspects of support, within a larger study on teacher well-being. Participants were inter alia asked to share their views on the types of programmes offered; their participation frequency, their motivation for and experiences of attending such programmes and instances of their well-being being supported or not, at provincial, district and/or school levels.

#### 5.4.3. Procedure

A digital questionnaire was sent via a link using the snowballing technique (Maree & Pietersen, 2016), with no unique identifiers or passwords via WhatsApp to a few teachers known to us personally, asking them to distribute it to colleagues. We thus have no idea how many teachers actually received the link. Still, we did not get a high response rate, something that is common in the developing world (Saleh & Bista, 2017).



#### **5.4.4. Integrity of the study**

Prior to the study, we received ethical approval from our institution. It was made clear in the introductory paragraph of the questionnaire that participation is voluntary, and that they would not be required to provide their names, or the names of their schools on the questionnaire, to ensure anonymity. We used the Cronbach's Alpha test to measure the level of internal consistency. The 31 scaled questions of the larger study were included in the test, and the Alpha coefficient was calculated to be 0.832, which indicates an acceptable level of reliability (Pietersen & Maree, 2016).

#### **5.4.5. Participants**

We received 26 replies, of which 15 were female and 9 male, with teaching experience varying between 2 years and 39 years. Most of the participants are teaching at public schools, with only two participants indicating that they teach at private schools. This is in line with the trend in South Africa with less than 10 % of the schools being private (Ryan, 2019). The number of learners at the participants' schools vary between 300 and 1,900. One participant teaches at a special school, four at primary schools while the rest teach at secondary schools. Details provided by the participants were clustered prior to the quantitative analysis, and these are included in Tabs 1–4 that follow.

### **5.5. Findings**

In the section that follows, we provide the findings of the survey starting with quantitative data, and various demographic variable categories, based on the mean score (M) and the standard deviation (SD). We also used inferential statistical techniques (student's two-tailed *t*-test and the one-way ANOVA (F statistic)) to get a sense of the differences in views, but not to infer. We provide the thematic analysis of the related qualitative data, highlighting the themes in bold in the discussion, and finally juxtapose our findings with available literature in the section 6.

#### **5.5.1. Evaluation of the general support provided**

South Africa is divided into nine provinces and each into different districts. District officials are tasked with supporting teachers in various ways including management, administration, teaching and learning support (Steyn, 2017). When asked how satisfied the participants were with the support provided at these three administrative levels, the participants indicated their dissatisfaction,

with the mean score below the point of neutrality. Support from the authorities at provincial level measured ( $M = 2.042$ ;  $SD = 0.999$ ), at district level ( $M = 2.174$ ;  $SD = 1.029$ ), and at school level ( $M = 2.783$ ;  $SD = 1.476$ ). Overall, participants were thus the least negative about support at school level and the most negative about support at provincial level.

In Tab. 1, we compare views based on demographic information of the participants, namely gender, age and post-level.

**Tab. 1:** *Perceptions of various groups of teacher participants on the support they receive*

<b>Support at</b>	<b>Gender</b>	<b>n</b>	<b>M</b>	<b>SD</b>	<b>t</b>	<b>p</b>
Provincial level	Female	14	1.93	0.917	0.159	0.876
	Male	8	2.00	1.069		
District level	Female	14	2.00	0.961	0.298	0.771
	Male	7	2.14	1.069		
School level	Female	13	2.46	1.450	0.476	0.640
	Male	8	2.75	1.282		
<b>Support at</b>	<b>Age</b>	<b>n</b>	<b>M</b>	<b>SD</b>	<b>F</b>	<b>p</b>
Provincial level	20–30	4	2.25	0.500	0.870	0.473
	30–40	7	1.86	1.069		
	40–50	5	2.60	1.342		
	50+	8	1.75	0.886		
District level	20–30	4	2.50	0.577	0.202	0.894
	30–40	6	2.17	1.169		
	40–50	4	2.25	1.258		
	50+	9	2.00	1.118		
School level	20–30	4	2.25	1.258	0.280	0.839
	30–40	6	2.83	1.472		
	40–50	5	3.20	1.789		
	50+	8	2.75	1.581		
<b>Support at</b>	<b>Post level</b>	<b>n</b>	<b>M</b>	<b>SD</b>	<b>t</b>	<b>p</b>
Provincial level	Teacher	17	1.76	0.831	1.554	0.162
	Management team member	6	2.50	1.049		
District level	Teacher	16	1.94	0.929	1.617	0.137
	Management team member	7	2.71	1.113		
School level	Teacher	16	2.69	1.493	0.455	0.658
	Management team member	7	3.00	1.528		

In the table above, it can be seen that the female participants are less satisfied with support provided at all three levels. In terms of the age group, the group falling in the 50+ year bracket seems least satisfied with support at provincial and district level and the second-most dissatisfied with support at school level. The 40–50-year age bracket is more positive about support at school and provincial level, while the 20–30-year age group is the most positive about support at district level. It must, however, be noted that “most positive” are really just neutral ( $M \pm 3$ ). In the sample, participants on the management teams were less negative about the support provided by the various administrative levels, following the trend with the highest level being at school level, and again merely neutral ( $M \pm 3$ ).

We then compared how participants from schools of differing size and financial standing. Details are provided in Tab. 3

**Tab. 2:** *Perceptions of teacher participants from different school settings on the support they receive*

Support at	School size	n	M	SD	F	p
Provincial level	Less than 500	4	1.25	0.500	1.135	0.361
	500–999	4	2.25	1.258		
	1000–1499	11	2.18	0.874		
	1500 +	3	2.00	1.000		
District level	Less than 500	4	1.75	0.957	0.276	0.842
	500–999	4	2.00	1.414		
	1000–1499	11	2.27	0.905		
	1500 +	3	2.33	1.528		
School level	Less than 500	4	3.00	2.309	0.781	0.520
	500–999	4	3.50	1.291		
	1000–1499	11	2.27	0.905		
	1500 +	3	2.67	2.082		
Affluence level		n	M	SD	t	p
Provincial level	Less affluent	9	2.22	1.202	0.623	0.543
	More affluent	13	1.92	0.954		
District level	Less affluent	8	2.50	0.926	1.092	0.290
	More affluent	13	2.00	1.155		
School level	Less affluent	8	2.88	1.642	0.041	0.968
	More affluent	13	2.85	1.463		

The data above indicate that of all the school size categories, participants from small schools (less than 500 learners) experience the support provided at provincial level the most negative. The mean score of 1.25 suggests that they experience this level of administrative support as “not supportive at all,” in accordance with a score of “1” on the scale. In general participants rated support at school level to be the best, with the least variation amongst those that teach at schools with between 1,000 and 1,499 learners.

In the South African context, school’s financial management duties fall into one of five quintiles, based on variables such as infrastructure, average income in the area, and so forth. Schools in quintiles 4 and 5 are thus regarded as more affluent schools whereas quintile 1 and 2 schools are typically in poverty-stricken areas. In the table below, we have grouped quintiles 1–3 under less affluent school and quintiles 4 and 5 as more affluent schools (Jacobs, 2018). Considering the scores as indicated in the Tab. 2, participants from more affluent schools tend to rate the support that they received on all three levels more negative. The difference is the most notable at district level. None of the differences appear, however, statistically significantly in this sample.

The analysis of the quantitative data suggest that teachers mostly rated the support provided at provincial, district and school level as inadequate. This is supported by participants’ commentary in the survey’s open questions section listing instances where these institutions had supported or not supported their well-being. Responses ranged from unenthusiastic, as expressed by T18 who found it “very hard to think of an example” except for being paid every month, to T22 scornfully wanting to know: “When have they ever cared about the well-being of educators?”

Teachers’ discontent focused on areas related to both personal and professional well-being. During data analysis, a number of themes emerged. Feelings of **not being supported as a person** and a member of a family were mentioned by T22 referring to workplace stress affecting pregnant women adversely. According to T24, the “main focus of the support of the DBE is based on workplace wellness, other aspects of the teacher wellness are not given much attention.” T13 reiterates that teachers’ physical and emotional well-being are neglected: “If you need to go to the doctor, you are too scared to even ask.” T24 stated that “DBE does provide support through school visits, monitoring and workshops. (The) main focus of the support of the DBE is based on workplace wellness, other aspects of the teacher.”

Experiencing a lack of **support in conflict situations** involving colleagues, learners and parents, is repeated several times. According to T26, the district office tends to support learners rather than educators. T2 and T18 mention being

threatened by learners and the matter not resolved satisfactorily by the employer. Says T18: "When you need support due to learners threatening teachers, then not even the school's disciplinary code helps to support the teacher ... the department doesn't care about the teacher, only what the school can do to 'help' the learner." T16 cites the example of a being accused of racism and reported to the authorities. Despite being found not at fault, "no 'intervention' was arranged" and no apology followed. According to T12, "parents can go directly to [provincial authorities] and complain and teacher's side is not heard. But when a teacher complains, questions are asked whether or not I had an influence on the outcome of a learner or behaviour of parent."

As the definition of well-being used in this study is broad and includes occupational well-being, a number of respondents brought up feeling **unsupported professionally** saying that personal and professional growth is not encouraged. T11, for instance, had to take unpaid leave to attend a science course, and T19 was prevented from attending a national school's sports tournament despite being a national schools coach, as he was expected to pay for a replacement teacher or forfeit his salary. Complaints about workload and particularly administrative tasks surfaced with T18 stating that "all the department does is send forms to complete. We constantly have more admin to do, than actual teaching." T10 mentions "impossible deadlines" and being expected "to attend meetings and training without proper notice, and (without heeding) covid19 regulations."

Another theme that surfaced is the **perceived lack of resources** available to teachers ranging from infrastructure, staffing to equipment. T3 is of the opinion that the provincial office is not "doing enough so far, since my school did not receive temporary classrooms and substitute teachers, which means teachers in Eastern Cape will be overloaded with subjects they do not have passion to teach." T3 did appreciate that the "school is trying so hard to support us though."

**Lack of organizational support** from all levels also features prominently with teachers complaining of a lack of communication, accessibility and assistance with personnel matters, especially during the Covid-19 lockdown and the officials working from home. T18 recalls an incident where an administrative error was made regarding her leave and money was deducted from her salary: "This caused a great dent in our well-being and pockets." Frustration with struggles to be promoted and transferred were also mentioned.

Some respondents were critical of **school principals** in particular, complaining that they disregard management, staff and teachers' input and act in an authoritarian manner. However, several participants praised their principals for being supportive, respectful and offering generous "input in the academic programme" (T1). T18's principal accommodated her when her grandmother died and she

had to travel to attend the funeral. “I completed the leave forms, but afterwards found out that my principal didn’t submit them, because he knew they wouldn’t approve it, since she’s not an immediate family member. Therefor saving me the trouble of having unpaid leave deducted from my salary. That was really considerate of him. He uses his discretion.” T14 stated that “the Department, regional office and school supported me in taking Covid-19 leave because of my age and comorbidities.” This is in line with the information gleaned from the quantitative data indicating that, in general participants were less negative about support at school level.

The majority of the respondents expressed satisfaction with the authorities’ response to the **Covid-19 pandemic**, with the exception of T3 who teaches at a mid-quintile school that had to provide essential protective products as the provincial office had neglected to do so.

### **5.5.2. Frequency of and motivation for participation in WWP**

To understand the frequency and motivation of participating in WWPs provided, we asked participants to indicate on a five-point scale, how often they participated in particular programmes with 1 indicating that they never participate and 5 indicating regularly participation. In line with our definition of WWPs, we distinguished between EAPs, EWPs and PDIs. The mean score of the participation frequency in WWP is 2.385 (SD = 1.551) which suggest a moderate level of participation while the mean score on EAPs (formal counselling services) is 1.500 (SD = 0.885) signifying low levels of use. Of the 26 participants, 12 (46.2 %) indicated that they “never” participated in WWPs organized by any of the three layers of authorities discussed in 5.1 above, while 17 of the 24 (70.8 %) who responded to the second question indicated that they have “never” made use of formal support services such as counselling provided by these authorities. We briefly looked at how the different sets of participants responded to the two questions posed:

**Tab. 3:** *Level of participation by various groups of teacher participants of support initiatives*

	<b>Gender</b>	<b>n</b>	<b>M</b>	<b>SD</b>	<b>t</b>	<b>p</b>
Participate in WWP	Female	15	1.87	1.187	1.768	0.103
	Male	9	3.11	1.900		
Make use of services	Female	15	1.47	0.915	0.100	0.922
	Male	7	1.43	0.787		
<b>Support</b>	<b>Age</b>	<b>n</b>	<b>M</b>	<b>SD</b>	<b>F</b>	<b>p</b>
Participate in WWP	20–30	4	3.75	0.957	1.639	0.209
	30–40	7	2.14	1.676		
	40–50	6	1.67	0.816		
	50+	9	2.44	1.810		
Make use of services	20–30	4	2.25	0.957	1.854	0.170
	30–40	6	1.67	0.816		
	40–50	5	1.00	0.000		
	50+	9	1.33	1.000		
<b>Support at</b>	<b>Post level</b>	<b>n</b>	<b>M</b>	<b>SD</b>	<b>t</b>	<b>p</b>
Participate in WWP	Teacher	17	2.29	1.490	-0.636	0.537
	Management team member	8	2.75	1.753		
Make use of services	Teacher	16	1.50	0.816	-0.150	0.884
	Management team member	7	1.57	1.134		

The table above show notable differences (albeit not statistically significantly different). Though neither the male nor female participants make use of formal support services often, males seem to take part in WWP more often. Participants in the age category 20–30 years, quite often, participate in WWP and also make use of formal support services more regularly than any other age group. Participants in the age brackets 40–50 are the least inclined to use these two sets of opportunities. Participants who serve on school management teams seems to make use of WWP slightly more often than participating post-level 1 teachers.

We also compared the utilization levels of participants from different school contexts. The details are displayed in Tab. 4.

**Tab. 4:** *Level of participation by participants in support initiatives from different school contexts*

<b>Support at</b>	<b>School size</b>	<b>n</b>	<b>M</b>	<b>SD</b>	<b>F</b>	<b>p</b>
Participate in WWP	Less than 500	4	2.75	2.062	0.440	0.727
	500–999	4	1.75	0.957		
	1000–1499	11	2.82	1.722		
	1500 +	3	2.33	1.528		
Make use of services	Less than 500	4	1.50	1.000	1.276	0.313
	500–999	4	1.00	0.000		
	1000–1499	11	1.55	0.820		
	1500 +	3	2.33	1.528		
Affluence level		n	M	SD	t	p
Participate in WWP	Less affluent	11	2.55	1.695	0.480	0.636
	More affluent	13	2.23	1.481		
Make use of services	Less affluent	9	1.67	0.866	0.520	0.609
	More affluent	13	1.46	0.967		

Responses from participants suggest that those who teach at schools of between 500 and 1,000 learners are the least inclined to use WWP opportunities provided by the education authorities. Participants from the largest schools (1500+ learners) make the most use of formal counselling services. Participants from the less affluent schools reported that they make slightly more use of opportunities, although the differences are quite small.

On being asked what makes them decide to participate in WWPs, some indicated a need to grow and learn personally as well as professionally. Such responses included that they realized that they had to learn about a particular topic; that they were interested in the particular topic, and that they realized that they had to take care of their well-being for the sake of the learners and the school. Some saw it as an opportunity to socialize, and attended because their colleagues were going to attend.

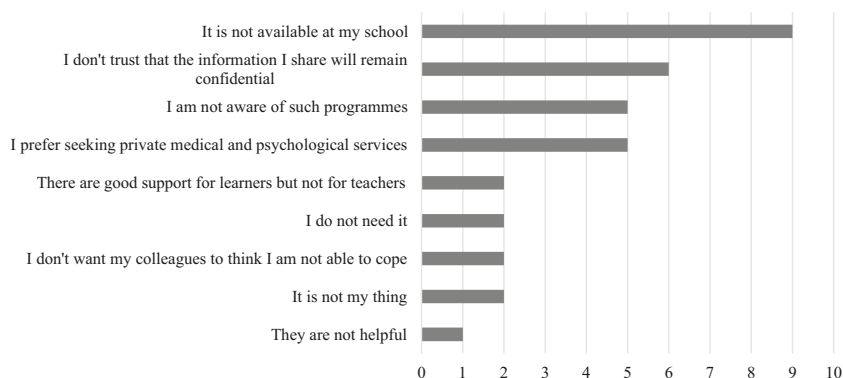
Participants tend to favor WWPs related to **continued professional development** including workshops (literature, leadership, Covid-19 screening); training courses and seminars (Information and Communications Technology in Education, Explaining Your Rights, Mind Moves, dealing with bullying



behavior and how to manage anger). Other activities focusing more on personal well-being mentioned were wellness events, book clubs and staff team-building activities. It is, however, not indicated whether these PDIs nor personal wellness activities had been initiated on provincial, district or school level.

Some participants had not participated in any programmes as (1) they were unaware of any offered, (2) none were offered and (3) only attended because it was compulsory and those, T11 explained, had “been of no use” and “a waste of time” adding that “I try and avoid them if I can.” T19 stated that no formal programmes were offered where he was employed. The only event he attends is the “get-together in the beginning of the year to welcome new educators” and the end-of-year function. Regarding formal EAPs, T24 is of the view that these “are implemented when the DBE encounters problems with regard to personnel performance. They are merely used to remedy the situation, rather than a preventative measure.”

The quantitative analysis (cf. Tabs 3 and 4) indicated a very low usage of formal counselling services. Reasons for this are summarized in the diagram below:



**Fig. 1:** *Reasons provided for not using formal counseling services*

T2, however, mentioned that he makes use of the department’s psychology unit to support “myself and my family.” T16 explained that as no such services were available to her and her colleagues, she has taken it upon herself to “support individuals privately.” T24 stated that she only has access to such service by way of private healthcare using private health insurance.

## 5.6. Discussions

### 5.6.1. Perceptions of organizational support

Participants' appraisal of official support as seen through the lens of the multi-dimensional well-being model we applied indicates that they perceive the personal and professional support as negative. Not distinguishing between workplace well-being and personal well-being is in line with the JD-R Model that looks at ways to balance job demands with job resources and personal resources such as work engagement, personal growth, learning, and development (Schaufeli & Bakker, 2004). Important for this study is (1) the inclusion of employees' perceptions of organizational support on the list of their personal resources; (2) how overall well-being and work-life satisfaction is affected by the reciprocal relationships among job resources, personal resources and POS and (3) how POS improves as job and personal resources are nurtured (Roemer & Harris, 2018).

We hold that this interlocking of job resources with personal resources and perceived organizational support is also negatively correlated as negative POS leaves the employee vulnerable to the adverse effects of a lack of job resources including inadequate teaching and staff resources and help for work-related conditions such as burnout, feelings of abandonment and being overburdened. Although the data exhibited higher levels of POS for professional development and training, participants commented negatively on the level of logistical and supply services, managerial support, personnel and administrative services. The importance of teachers having adequate resources, curriculum support, and good leadership to support teaching and learning has been studied extensively (Falk et al., 2019; Turner & Thielking, 2019). The same applies to supporting their professional well-being through personal growth and collegiality as well as factors like work load, time and conflict management (Fernandes et al., 2019). The result is that, in time, employees' sense of hope, efficacy, resilience and optimism (HERO) dwindle, as does their work and life satisfaction (Roemer & Harris, 2018).

Teachers' perceived lack of support on a personal level is significant but also ironic. Although the South African public service is being held to the principles of *Batho Pele*, the Sesotho phrase meaning "people first" (RSA Public Service Commission, 2008) when providing services, this was not the participants' experience. As one participant expressed it: the "main focus of the support of the DBE is based on workplace wellness, other aspects of the teacher wellness are not given much attention." Feelings of being disregarded, undervalued and

not acknowledged as more than employees and as members of a family and a wider community contribute to decreasing POS and erodes their personal resources (vitality, self-esteem, optimism and self-efficacy) and work engagement and well-being (Xanthopoulou et al., 2007). "Nowadays," one participant stated, "educators need to be people that are not married, have no kids and their focus must just be the school and what the department and principal want from you."

### **5.6.2. Frequency of and motivation for participation in WWP**

The low frequency and motivation of teachers to participate in the official WWPs, at the same time (1) signify levels of POS and (2) actively influence it. Teachers' lackluster response to existing WWPs as well as indications of seemingly inadequate marketing of existing programmes and a complete lack thereof in some schools explain their negative POS, at times expressed as suspicion and distrust. As POS increases buy-in decreases and as POS decreases buy-in decreases. One of the areas that would benefit from further research is the effectiveness of authorities' strategies to disseminate and market WWPs among teachers.

This study was subject to a number of limitations, the first being restricted generalizability. This is due to small sample size ( $n = 26$ ) and convenience sampling with broad criteria (currently teaching and having access to electronic media). Though the sample is well-distributed towards maximum variation within the South African context, it is not necessarily representative of the South African teacher population. A second limitation also relates to the snowballing technique and has the potential to skew data. Although it has the advantage of harnessing existing relationships among acquaintances making it easier to brooch sensitive topics like the ones in this study, the possibility exists that participants forwarded the invitation to colleagues whom they know are experiencing negative well-being (Crouse & Lowe, 2018).

## **5.7. Conclusions**

The negative perceptions teachers in this study have of the general support and support provided via WWPs indicate more than just their disgruntlement and experiences of not being supported sufficiently. It has also highlighted the danger of an organization trivializing employees' perceptions of such support and missing an opportunity to use it as: (1) a gauge to establish fitness for purpose of current and proposed programmes; (2) feedback on the effectiveness of promoting such programmes; (3) a measurement of return on financial and time

investment; and (4) a way to build relationships that will see teachers flourish as members of their organization, family and community.

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## **Chapter 6 The Relationship between Test Anxiety and Math Anxiety in Primary School Children**

**Abstract** The development of math skills is crucial for an adequate functioning in academic and professional settings. A factor that has been shown to negatively influence the acquisition of math skills is math anxiety. Considering the high prevalence of math anxiety and its long-lasting effects on math performance, it is important to study the relation between math anxiety and more general forms of test anxiety in young children. The purpose of this study was to highlight both the overlap and the distinction between test anxiety and math anxiety in Romanian primary school children ( $N = 154$ ) and to assess the gender and age differences for these two dimensions. While the effect of gender on the relation between math anxiety and math performance has been studied in adults and adolescents, less research has focused on children, especially children at young ages. The research was conducted on a sample of 154 students (3rd and 4th grades) from six schools in the Northwest region of Romania. Data was collected using the Cognitive Testing Anxiety Scale, the Scale for Early Math Anxiety and the modified Abbreviated Math Anxiety Scale.

Results indicated a moderate convergence between the two Math anxiety scales ( $r = .69$ ,  $p < .001$ ), supporting good construct validity. Their correlation with the test anxiety scale was lower, both in the case of SEMA ( $r = .38$ ,  $p < .05$ ), and of mAMAS ( $r = .58$ ,  $p < .01$ ), suggesting that the two types of anxiety are related, but do not fully overlap. The present findings emphasize the importance of the early identification and remediation of math anxiety in girls and boys to prevent long-lasting effects. Overall, these findings highlight the importance of monitoring both math anxiety and test anxiety from the early stages of schooling, in order to promote proficient academic performance and to delineate some specific cognitive training programs that can help teachers improve math skills and reduce math anxiety in school. Most importantly, while there is an association with general testing

anxiety, the two remain distinct constructs and interventions that address them should consider math anxiety as a particular form of anxiety, and not just a form of test anxiety.

**Keywords:** math anxiety, primary school children, test anxiety.

## 6.1. Introduction

### 6.1.1. What is math anxiety?

Mathematical skills are important not only for the academic or professional life, but also for everyday life situations (Ashcraft, 2002; Ashcraft & Moore, 2009; Dower, 2016). A significant proportion of people struggle with anxiety and emotional distress when faced with mathematical stimuli (Ashcraft & Kirk, 2001). Mathematics anxiety is often defined as “a feeling of tension and anxiety which interferes with the manipulation of numbers and the solving of mathematical problems in a wide variety of ordinary life and academic situations” (Richardson & Suinn, 1972, p. 551). Individuals suffering from math anxiety can have various reactions when confronted with mathematical stimuli (Ashcraft, 2002). These reactions can range from mild to severe, from a small amount of anxiety to a very intense and distressing emotional reaction (Ashcraft, 2002; 2009). Studies also show that these reactions are not circumscribed to a certain type of setting (Kazelskis et al., 2001; Maloney, Ansari, & Fugelsang, 2011), as they can appear not only in formal settings (e.g., a math exam) but also in daily situations (e.g., when checking a bill at a restaurant; Ashcraft, 2002).

According to statistical estimations, it seems that approximately 20 % of the population have some anxiety symptoms when it comes to solving tasks which require operating with numerical information (Dowker, 2016). Math anxiety affects not only adolescents and adults but also children (Hembree, 1990; Ashcraft, 2002; Dowker, 2016; Zhang, Zhao, & Kong, 2019). Research on math anxiety shows that as children move throughout their educational course, the level of math anxiety increases with highest levels being recorded around the 9th grade (e.g., Hembree, 1990). Children with high mathematics anxiety scores are more likely to be affected by other types of anxiety, such as test anxiety and general anxiety.

Despite the scarcity of studies investigating mathematics anxiety in *primary school children*, relevant findings have been obtained, especially from studies centered on secondary school children (Ashcraft, 2002; Ashcraft & Moore, 2009; Dower, 2016). In the literature, this construct has been investigated almost exclusively in adolescents and adults. This aspect can be explained by the fact that

there was a gap between the development of mathematics anxiety instruments for adolescents and adults (Richardson & Suinn, 1972;) and mathematics anxiety instruments for children. Despite this methodological gap, studies began to explore this problem for younger children, as well (e.g., Vukovic et al., 2013).

At this time, there is insufficient evidence to support the fact that math anxiety is a specific type of anxiety for young children (Putwain & Daniels, 2010). At this age, math anxiety moderately or strongly correlates with test anxiety (Carey et al., 2017). Assuming that a significant proportion of math anxiety variance is shared with general and test anxiety, then math anxiety could represent an unspecific manifestation of general or test anxiety. If math anxiety, general and test anxiety are weakly or moderately correlated with each other, this could suggest that math anxiety is a unique construct (Carey et al., 2017).

### **6.1.2. Math anxiety consequences**

For a finer-grained analysis, we can tackle mathematics' anxiety features at three different levels: (a) cognitive effects: cognitions or worrisome thoughts regarding the current or future performing situations and about the possibility of being negatively evaluated either by peers or teachers in a performance-based setting (e.g., doing a math exercise at the blackboard) or in anticipation of having to perform (e.g., being called on during mathematics class) and the potential for negative evaluation by either teachers or peers (Hopko, McNeil, Zvolensky, & Eifert, 2003; Ashcraft & Krause, 2007), (b) behavioral effects (e.g., avoidance behavior) (Hembree, 1990; Ashcraft & Faust, 1994; Chipman, Krantz, & Silver, 1992) and (c) physiological reactions (e.g., increased heart rate, dizziness) (e.g., Dew, Galassi, & Galassi, 1984).

These can negatively impact the educational course (Hembree, 1990). It seems that children suffering from mathematics anxiety enjoy mathematics to a less extent, have diminished self-confidence in one's ability to learn mathematics, and expose themselves to mathematics less frequently (e.g., they are taking fewer mathematics courses) (Hembree, 1990). Researchers argue that these math anxiety-related outcomes lead to a snowball effect with both short- and long-term consequences (e.g., Hembree, 1990). In terms of short-term consequences, children suffering from math anxiety deprive themselves of the opportunity of building mathematical skills and, therefore, perpetuate their negative beliefs about themselves and towards mathematics (e.g., Hembree, 1990). On the long run, due to their impaired mathematical skills, these children can risk being rejected from entering college, avoid certain types of careers that involve certain

math skills, or avoid higher education altogether (e.g., Hembree, 1990; Petersen & Hyde, 2017).

There is an extensive body of research on mathematics anxiety in adolescents and adults (e.g., Hembree, 1990; Ma, 1990), but the literature assessing mathematics anxiety in primary and early school populations is scant and inconsistent (Jameson, 2014). Three more recent studies address the relationship between math anxiety and academic outcomes in mathematics in primary school children: Thomas and Dowker (2000), Krinzinger et al. (2009) and Ramirez et al. (2016), all three demonstrating that students are displaying math anxiety symptoms from the primary classes.

At the early elementary school level, we typically find a downward trend: several studies examining children's math anxiety between 1st and 3rd grades (Vukovic, Kieffer et al., 2013; Ramirez et al., 2016) report a reduction in average math anxiety across school year cohort observed. However, Jameson (2014) reported a peak in 3rd grade (rather than a downward trend) in her study measuring math anxiety from 1st to 4th grades. Although these different results may suggest that math anxiety fluctuates from year to year, there are also several studies that find no meaningful difference between years observed. Math anxiety studies examining children in Grades 3 and 5 (Dowker et al., 2016), and Grades 1–3 (Ganley & McGraw, 2016) report no differences in math anxiety across these school grades. In sum, there is no clear trend across various cross-sectional studies examining math anxiety across different age groups.

Many studies have reported significant differences between female and male students (Wigfield & Meece, 1988; Hembree, 1990; Bernstein, 1992; Ashcraft & Faust, 1994; Hopko, Mahadevan, Bare, & Hunt, 2003; Carey, Hill, Devine, & Szűcs, 2016; Xie, Xin, Chen, & Zhang, 2018), but failed to pinpoint why. However, some explanatory hypotheses can be drawn from the literature. Maloney et al. (2011) found that difference in math anxiety level is mediated by spatial-processing skills, which are an integral part of mathematical skills. Boys were shown to gain a slight advantage in mental-rotation performance during the first years of formal schooling, and this advantage slowly grew with age, tripling in size by the end of adolescence (Lauer, Yhang, & Lourenco, 2019). Ashcraft (2002) found that women more easily report higher levels of anxiety. Beilock, Rydell, and McConnell (2007) found that math anxiety is the result of stereotypes that claim that girls are less good than boys in math. But the vast majority of math anxiety studies focused on students at American universities and to a very small extent on students in community colleges. Only a small percentage of these studies had subjects from primary or secondary school. Petersen and Hyde (2017) found that different assessment scores of mathematics anxiety are intercorrelated more

strongly than they are correlated with test anxiety scores. Due to such empirical results, Hembree (1990) assumes the two constructs to be distinct.

With regards to the relationship between math anxiety and test anxiety in general, math anxiety is different from other forms of anxiety, simply because it refers to anxiety in specific situations where students are faced with problems involving the use of math (Carey et al., 2017). Numerous studies have shown that there is a significant relationship between math anxiety and test anxiety (Hembree, 1990; Kazelskis et al., 2001; Brown et al., 2011; Devine et al., 2012). However, if in the early 2000s) drew attention to the fact that math anxiety and test anxiety are not truly distinct concepts, as Thomas, Cassady, & Finch, (2017) considered that test anxiety can sometimes be hidden under verbal labels such as math anxiety, most recent studies use both anxiety scales test, as well as mathematics anxiety, to be able to discern between the influence of these two on school performance. Often, however, studies have found small to medium correlations between math anxiety and test anxiety and, as Hembree's (1990) seminal study shows, only a small part of the variability of test anxiety is due to math anxiety.

Given these aspects, our focus is on mathematics anxiety in primary school students. First, we will focus on the potential relationships between test anxiety and math anxiety in primary school and gender differences. Second, we will outline and discuss some relevant age and gender differences, and consider its impact on mathematics achievement or performance.

## **6.2. Research aims and objectives**

The main goal of this research was to assess the relationship between math anxiety and test anxiety for primary school children. We cannot develop and implement effective interventions for reducing math anxiety if we do not have a proper grasp on this phenomenon. Is math anxiety associated with test anxiety or not? Does it affect more often girls or boys? Are younger children more affected by math anxiety or not? These are the research questions that have been repeatedly addressed in the literature, with mixed results depending on the methodology, cultural context and developmental window.

Our study has three major objectives:

First, we wanted to test whether there is significant positive correlation between math anxiety and test anxiety, as extensively documented in the literature (Hembree, 1990 Kazelskis et al., 2001; Devine et al., 2012; Jameson, 2014; Petersen & Hyde, 2017).

Second, we wanted to highlight the age differences (3rd graders compared to 4th graders) on math anxiety – we expected to see lower levels of math anxiety for older children (Vukovic, Kieffer et al., 2013; Ramirez et al., 2016).

Third, we wanted to underline gender differences on math anxiety and test anxiety. Again, according to other studies, we anticipated higher levels of anxiety for girls rather than boys (Devine et al., 2012).

### 6.3. Research methods

#### 6.3.1. Participants

A total of 154 primary school students from six schools agreed to participate in our study, out of which 91 children were males (58.3 %) and 63 were females (40.4 %). The age ranged from 8 to 10 years, as participants attended 3rd- and 4th-grade classes. Participation informed consent, data confidentiality and other ethical aspects were clarified before the study began.

#### 6.3.2. Instruments

Our research focused on two main dimensions – test anxiety and math anxiety. Both of them were measured using self-report instruments.

**Test Anxiety** was assessed using the **Cognitive Testing Anxiety Scale** (CTAS; Cassady & Johnson, 2002). This scale is a 27-item measure designed to assess the cognitive indicators of test anxiety across the preparation and performance phases of the learning test cycle. Students have to respond using a four-point Likert-type scale, ranging from A to D, where A means “not at all typical of me”; B = “somewhat typical of me”; C = “quite typical of me”; D = “typical of me” (e.g., “I lose sleep over worrying about examinations.”).

**Math Anxiety** was assessed using the following instruments:

**The Modified Abbreviated Mathematics Anxiety Scale** (mAMAS; Carey, Hill, Devine, & Szucs, 2017) is a self-report questionnaire with a total of nine items. It can be used to test the math anxiety for children with ages ranging from 8 to 13 years. Participants use a five-point Likert scale to indicate how anxious they would feel during certain situations involving math (1 = low anxiety to 5 = high anxiety). For instance, children are asked, “how anxious do you feel when you take a math test?” The scale has good psychometric properties, with an ordinal alpha value of 0.89 and Cronbach’s alpha value of 0.86 (Carey et al., 2017).

**The Scale for Early Mathematics Anxiety** (SEMA; Wu et al., 2012) includes 20 items, out of which the first 10 assess children’s anxiety related to solving problems, as they are required to pretend that they have to provide an answer to

a few math problems (e.g., “George bought two pizzas that had six slices each. How many total slices did George have to share with his friends?”). The other ten items were designed to assess children’s anxiety related to testing situations that primary school children often encounter while learning mathematical concepts (e.g., “You are in math class and your teacher is about to teach something new”). After reading each item, students were asked to rate their anxiety level on a five-point Likert-type scale. Ratings were shown with graded anxious and non-anxious faces in order to assist the students in identifying their anxiety levels. Children responded by selecting one of the faces or by verbally replying how anxious or non-anxious they felt. SEMA has good validity and an adequate Cronbach fidelity coefficient ( $\alpha = 0.87$ ).

### 6.3.3. Procedure

First, schools and parents were informed regarding the purpose of the present investigation and about the measurements involved in the data collection. Consequently, parents and schools signed a consent form and after that a short briefing was given to all participants in the study. All the instruments were administered item-by-item to each class of participants. The research assistant offered clarifications and additional term explanation when needed.

## 6.4. Results

Descriptive statistics (score ranges, means, standard deviations) for the main study variables are provided in Tab. 4.1.

**Tab. 4.1.** *Descriptive statistics for the study variables*

	<i>N</i>	<i>Min.</i>	<i>Max.</i>	<i>M</i>	<i>SD</i>
<b>CTAS</b>	154	0	102	57.90	15.23
<b>mAMAS</b>	154	0	37	20.10	6.42
<b>SEMA</b>	154	0	64	33.86	11.41

*Note.* CTAS= Cognitive Testing Anxiety Scale; mAMAS= Modified Abbreviated Mathematics Anxiety Scale; SEMA= Scale for Early Mathematics Anxiety

One of our main aims for this study was to investigate the correlations between measures of math anxiety and test anxiety for primary school children. In order to do so, we performed a Pearson correlation analysis and the data is shown in Tab. 4.2.

**Tab. 4.2.** *Correlations among math anxiety and test anxiety*

Measures		CTAS	MAMAS	SEMA
CTAS	Pearson	-	.57**	.38**
	Correlation			
mAMAS	Pearson		-	.69**
	Correlation			

*Note.* CTAS= Cognitive Testing Anxiety Scale; mAMAS= Modified Abbreviated Mathematics Anxiety Scale; SEMA= Scale for Early Mathematics Anxiety; \*\* $p < .001$ .

First, as expected, a strong association was found between the two math anxiety tests ( $r = .69, p < .001$ ), without representing a complete overlap between them. Additionally, we found a significant positive correlation between CTAS (test anxiety scale) and mAMAS (math anxiety scale) ( $r = .57; p < .001$ ), indicating that primary school children with high levels of test anxiety are also prone to experiencing math-anxiety symptoms, as measured with this self-report measure. Similarly, a significant positive correlation was found between the test anxiety scale (CTAS) and the other math anxiety scale (SEMA) ( $r = .38; p < .001$ ), highlighting a similar, albeit lower, association between test anxiety and this measure of math anxiety for primary school children.

The second objective of our research was to test for potential age differences in math anxiety, comparing 3rd- and 4th-grade primary school students. The group descriptive statistics are shown in Tab. 4.3.

**Tab. 4.3.** *Means and standard deviations for test anxiety (3rd and 4th grade students)*

Variables	Grade	N	M	SD
mAMAS	3rd grade	105	19.25	6.09
	4th grade	49	21.92	6.80
SEMA	3rd grade	105	34.37	11.60
	4th grade	49	32.78	11.01

*Note.* mAMAS = Modified Abbreviated Mathematics Anxiety Scale; SEMA = Scale for Early Mathematics Anxiety

First, independent samples *t*-test results suggest that in the case of math anxiety test (mAMAS), 4th graders had significantly higher levels of math anxiety ( $t = -2.44, p = .016$ ), showing that older children report experiencing higher levels of anxiety possibly related to their exam tests. However, these differences were not present in children's SEMA self-report scores, as *t*-test analyses showed



that 4th graders' math anxiety on this measure was not different than their counterparts' anxiety scores ( $t = 0.80, p = .42$ ).

Finally, the last aim of our study was to highlight gender differences both for math anxiety and test anxiety in the case of primary school children. The group descriptive statistics are shown in Tab. 4.4.

**Tab. 4.4.** Means and standard deviations for test anxiety and math anxiety (males versus females)

Variables	Gender	N	M	SD
CTAS	males	91	56.25	13.47
	females	63	60.29	17.31
mAMAS	males	91	19.35	5.54
	females	63	21.17	7.44
SEMA	males	91	33.74	10.16
	females	63	34.05	13.08

*Note.* CTAS = Cognitive Testing Anxiety Scale; mAMAS = Modified Abbreviated Mathematics Anxiety Scale; SEMA = Scale for Early Mathematics Anxiety

The only statistically significant difference found was on the mAMAS anxiety test, with girls scoring higher on this math anxiety measures compared to their male counterparts ( $t = -2.44, p = .01$ ). Differences in scores on the other anxiety scales did not reach significance ( $p \geq .10$ ).

## 6.5. Discussions

The purpose of this chapter was to analyze the possible correlations between test anxiety and math anxiety in primary school children, while also analyzing the influence of age during a sensitive developmental window (8–10 years). Since studies show that math anxiety is often more pronounced in women than in men (Wigfield & Meece, 1988; Hembree, 1990; Ashcraft & Faust, 1994; Hopko, Mahadevan, Bare, & Hunt, 2003; Carey, Hill, Devine, & Szücs, 2016; Xie, Xin, Chen, & Zhang, 2018), it was also essential to take the effect of gender into account. While the effect of gender on the relation between math anxiety and math performance has been studied in adults and adolescents, less research has focused on children, especially children at young ages. To fill this gap, the current study examined how the relation between math anxiety and test anxiety differed between boys and girls in early elementary school years. The results are in agreement with previous research (Hembree, 1990; Kazelskis et al., 2001;

Devine et al., 2012; Jameson, 2014; Petersen & Hyde, 2017) showing a positive correlation between math anxiety and test anxiety. This correlation may suggest the existence of common predisposing mechanisms or factors. For example, it is possible to have factors in the school environment that influence the anxiety level of the students (Xie et al., 2018). Math anxiety is different from test anxiety, because it refers to anxiety in specific situations when students are faced with problems involving the use of math in school or in everyday life (Carey et al., 2017). While there is an association between test anxiety and math anxiety, the two constructs remain distinct and interventions that address them should consider math anxiety as a particular form of anxiety, and not just a form of test anxiety.

At the same time, the fact that in many studies the girls scored significantly higher (in one of the two instruments) shows that math anxiety is consistent with the later cross-sectional research that investigated gender differences in the primary classes (Powell, Fuchs, Fuchs, Cirino, & Fletcher, 2009), revealing the higher levels of anxiety for girls rather than boys (Devine et al., 2012) as we anticipated.

One problem that may contribute to these inconsistencies is that the majority of studies examining changes in math anxiety over time often failed to consider individual differences and potential heterogeneity in math anxiety development. Several recent studies provide preliminary evidence for heterogeneous trajectories of math anxiety development. In this regard, it is recommended that teachers be trained so as to avoid reinforcing stereotypes for girls and boys (Beilock, Gunderson, Ramirez, & Levine, 2010) and to use self-reflection to ensure that they do not implicitly contribute to their reinforcement by predominantly involving boys in math hours (Devine, Fawcett, Szűcs, & Dowker, 2012).

## 6.6. Conclusions

The present findings emphasize the importance of the early identification and remediation of math anxiety in girls and boys to prevent long-lasting effects. Overall, these findings highlight the importance of monitoring both math and test anxiety from the early stages of schooling, in order to promote proficient academic performance and to delineate some specific cognitive training programs that can help teachers improve math skills and reduce math anxiety in school. The importance of researching these concepts also has implications for the educational and professional decisions that students need to make. Thus, mathematics anxiety can become a factor that will influence the educational and career goals that a student can propose to them. For example, a student

with math anxiety may choose to avoid any career or career path related to this field. Also, we consider that the prevention and intervention training strategies involving cognitive tutoring on math can ameliorate math anxiety. Hembree (1990) stated that for a most effective intervention, we also need techniques that involve cognitive restructuring and behavioral interventions. Also, in order to reduce mathematical anxiety, it is proposed to offer students specific equipment (e.g., computer games) through which it will be easier to work with concepts (see [www.minimanx.com](http://www.minimanx.com) for a national cognitive tutoring to reduce math anxiety project, see Petruț & Visu-Petra, 2020).

The limits of most studies include assessing a limited sample and the collection of data exclusively through self-reported questionnaires. As a result, we cannot ensure that the scores obtained by the students reflect the level of anxiety of the students, which may be influenced by the various aspects of the test. In addition, given that dependent variables are measured only once, we cannot make assumptions about modifying them individually. These limits could be addressed in future studies by longitudinally investigating the concepts, using a more heterogeneous sample (e.g., different classes, different cities, and different socio-economic status). At the same time, the construction of experimental tasks would allow more detailed investigation of the concepts. Of real use could be the teacher trainings on new innovative and computerized pedagogical methods that can be used in the classroom for teaching and evaluating knowledge in the mathematical discipline. Encouraging teachers to use creative teaching materials and tutoring programs for children with math anxiety.

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## **Chapter 7 Engaging Pupils in Assessment Processes: A Peer Review Model**

**Abstract** In line with a social-constructivist perspective, some authors consider peer assessment (PA) as an educational procedure where students judge peers' performance by providing grades and/or offering written or oral feedback to stimulate peers to reflect on and improve their performance (Strijbos & Sluijsmans, 2010). Many studies reveal the positive impact of PA on students' learning and students' responsibility for their peers' learning. Furthermore, PA involves students in an active role inside assessment processes. Research shows that engaging students in assessment processes are a crucial tool to sustain lifelong learning (Boud, 2000; Boud & Soler, 2016). Although these benefits are widely verified in higher education in many international contexts, only a few studies focus on peer assessment at the primary (Crinon, 2012; Hung, 2018) and secondary school levels (Tsivitanidou, Zacharia, & Hovardas, 2011). In Italy, a group of researchers and teachers has developed a specific peer assessment model (Grion, Serbati, Tino & Nicol, 2017) in Italian elementary and secondary school contexts, where PA is a completely unknown practice. The research involved nine classes and different subjects with the support of a peer review process. Results allow us to affirm that the PA model work works effectively in school contexts. Furthermore, the implementation of the model seems to support the development of assessment literacy (Carless & Boud, 2018).

**Keywords:** peer assessment, feedback, assessment for learning, school assessment, formative assessment.

### **7.1. Introduction**

Among the different definitions and practices regarding formative assessment (Brookhart, 2007), a perspective that has particularly valued the active role of the student is that of Assessment for Learning (Black & Williams, 1998).

Within this perspective, Sadler (1989) opened the way to research one of the central concepts explaining the formative value of the assessment: *feedback*. The author reports that formative assessment concerns the action through which the gap between the learning currently acquired by the pupil and the expected one is bridged. In this sense, it is the process of during which, by making sure that the pupil has not reached the level of performance envisaged, resources are made

available to it to achieve pre-established learning. These resources represent the feedback that, in more traditional contexts, the teacher offers the pupil or, in a more recent perspective, peers can exchange with each other.

International research has disclosed the importance of feedback in formative assessment for a number of years (Gibbs 1999; Andrade & Cizek, 2010; Sadler, 1998, 2010; ) but scholars have recently stressed that teacher's feedback is not as effective as peer review approach (Nicol, Thomson & Breslin, 2014; Nicol, 2018). This latter is a reciprocal process through which students give feedback reviews on peers' work and receive feedback reviews of their work from peers (Nicol, 2010).

At university, the research on peer assessment and feedback has already developed a series of reflections that highlight the positive perspectives that these practices can offer to the university teaching (Grion, Serbati, Tino, & Nicol, 2017; Grion & Tino, 2018; Li & Grion, in press). As some authors make clear (Nicol, 2010; Boud & Molloy, 2013), in the trials of peer review, students take an active role in which, while analyzing the work produced by one or more colleagues, spontaneously reflect back on their work, reinforcing their knowledge disciplinary, learning different ways of performing the same task and gaining a broader view of the work itself. In addition, the opportunity to experience themselves in the role of evaluators leads the pupils to develop one of the most important soft skills for their future personal and professional life: the ability to develop judgments evaluation, that is, to create, use and apply evaluation criteria to discriminate against objects or make decisions about external situations or whether to themselves (Boud, Ajjawi, Dawson, & Tai, 2018; Boud & Soler, 2016).

While a certain amount of international research has examined the learning benefits of similar teaching models in higher education (Cho & McArthur, 2011; Cho & Cho, 2011; Grion, Serbati, Tino, & Nicol, 2017; Grion & Serbati, 2019), very little research has been carried out in school contexts (Hovardas, Tsivitanidou, & Zacharia, 2014; Hung, 2018) although we are all aware that assessment is one of the main elements of any school activity.

Despite a long tradition of studies, assessment practices in school contexts generally remain very focused on the only summative function. As proof of this, a recent extensive study conducted in Dutch secondary schools (Kippers, Wolterinck, Schildkamp, Poortman, & Visscher, 2018) highlights that only the percentage between 10 and 25 % of teachers uses self-assessment and peer review with their students. Moreover, the empirical surveys on the formative assessment practices conducted in the school with the involvement of young people in peer processes are much less many of those carried out in the university environment



(Hung, 2018). However, the research on peer assessment in school contexts appears to be less developed than that conducted in a university context (Lu & Law, 2012).

Starting from the Italian context, it can be observed that the only research found is the one carried out by Giovannini and Boni (2010) on educational evaluation in primary school. In the teaching path investigated, there were some moments of peer review. All formative assessment activities with the involvement of the pupils seem to have led to positive results both on learning of the pupils, that on their awareness of the learning process and evaluation measures put in place; in addition, positive effects have been obtained about their own vision of evaluation by teachers: a broadening of their perspectives on assessment training and greater awareness of the effects of their assessment choices on their pupils' learning.

The activation of peer feedback practices has positive effects on learning and can be considered a valid alternative to the feedback given by the teacher (Tseng & Tsai, 2007). This last statement, however, has to be considered with particular attention to primary school, where a recent research by Hung (2018), comparing the peer assessment and the teacher assessment in three different groups of pupils attending the fourth, fifth and sixth (age group: 10–12 years) year of a primary school of Taiwan, notes that the ratings (in terms of data scores, through the use of a co-built evaluation rubric) given by children of 4th grade differ significantly from those given by the teacher, unlike what happened for pupils attending the fifth and the sixth ones.

Focusing on the most recent studies, the quasi-experimental research conducted by Gielen et al. (2010) with 85 school secondary students is in line with previous results, as it shows that the results obtained by the two groups, experimental and control – engaged in the production of a text, the first with feedback support received from peers and the second with feedback received from the teacher – are equivalent.

The positive effects of the feedback received from peers in comparison to the positive effects of the experts are less evident in the research of Hovardas, Tsivitanidou, and Zacharias (2014), held at a secondary school in Cyprus. The authors, however, note the complexity of creating contexts in which the feedback between peers is effective, highlighting, in particular, the need to train children to evaluate peers and provide meaningful comments.

The latter work (Hovardas, Tsivitanidou, & Zacharias, 2014) highlights one of the emerging issues in feedback research, that is, the need to provide in peer review contexts an initial training of the participants, a practice identified, sometimes, as more effective than anonymity (Li, 2017). In the study, the

authors confirm the results of their previous research in which they detected that despite the fact that secondary school students had demonstrated the ability to create/use/apply assessment criteria and give feedback also without any previous training, the feedback given and received had led to low-level results (inappropriate feedback, inappropriate use of feedback, few products' improvements). The absence of training, therefore, led the young people to achieve the performance of peer feedback as procedures to be followed to carry out the assigned task, without, however, being able to develop significant learning (Tsivitanidou, Zacharia, & Hovardas, 2011).

A research conducted in a French primary school (Crinon, 2012) emphasizes a further issue concerning the peer review: the different impact of giving and receiving feedback: the positive effects of peer feedback seem to be particularly evident in the pupils who offer feedback more than in those who receive it, as demonstrated also from some university research (Cho & Cho, 2011; Grion & Tino, 2018). Having worked with two groups of pupils of fourth and fifth primary classes, the first of which gave feedback to the other, via email, about a series of novels that were being written, the author notes that the young people who offered feedback produced quality texts higher than those who received it. The need to articulate comments on the texts of others leads the pupils to an awareness of the multiple perspectives of writing to a "metacognitive detachment," which supports a more complex view of the text and the task. On the contrary, feedback recipients tend to accept the criteria without processing them and to accept or reject the comments received in a general way uncritical. The author, however, stresses that the revision between even is not enough to overcome the differences in pupils' different abilities and that literacy in the language still requires careful support of the teacher, especially in the case of less able pupils. In every case, the processes involving those who are in a position to offer feedback improvements following the evaluation of written peer reviews, such as the alternation of reading and writing, the clarification and reformulation of criteria and knowledge, contribute significantly to realize the positive effects observed.

Another experimental research carried out in a Dutch primary school (Leenknecht & Prins, 2018) confirms the positive effect of the activities of peer review in 95 pupils engaged in the activities of the development of a brochure on environmental issues. Research checks directly involving the pupils in the group discussion, construction and application, on an exemplar, of the evaluation criteria of the products to be prepared, their ability to evaluate has activated the work of the comrades in a significantly better way than to those who did not participate in the work on the criteria (control group), thus demonstrating that they have developed evaluation knowledge.

This research confirms the results of previous studies (Higgins, Harris, & Kuehn, 1994) also testing the ability of the pupils of primary school to develop knowledge and deal with practices such as evaluative.

Other research identifies the generally positive perceptions of the pupils engaged in peer review activities.

Hsia, Huang, and Hwang Gwo (2016) report that 180 students from school secondary, divided into experimental and control group, say to prefer web-based peer review activities, carried out on a task of artistic disciplines, rather than those achieved through one video streaming tool to support the assessment. Positive perceptions of peer review activity are also reported by 93 % of the 130 pupils in the 4th, 5th, and 6th grade of a primary school in Taiwan (Hung, 2018). These same students believe that the activities of peer review in L2's activities have led to an improvement in their disciplinary learning, helped them to understand better to meet the teacher's requirements, and to hone their ability to perform the task assigned (a presentation in English). Likewise, in the recent near-experimental survey by Rotsaert, Panadero, Schellens, and Raes (2018), it is noted that peer assessment activities promote an increase in the perception of improving the own evaluation performance by 36 secondary school students.

In a quasi-experimental research conducted with four classes of secondary school in Belgium, Vanderhoven, Raes, Schellens, and Montrieux (2012) highlight the important role of anonymity in peer review. The results show that the experimental group, in which the assessment on a presentation elaborated by peers takes place anonymously through a system supported by computer available in class, addresses this assessment with a more serene attitude, with less fear of making mistakes, and by feeling less the influence of the evaluated comrades on their decisions (e.g., in awarding negative votes).

What can be found in the literature gives account for positive results and sometimes very positive implementation results of peer evaluation practices in schools.

Also, the more recent topic about assessment literacy and sustainable assessment approach has been a very stimulating element for our investigation/reasoning (Boud, 2000; Carless et al., 2018). The work with students about how to develop self-assessment and self-regulation seems indeed to be fundamental in the lifelong learning process that has to be carried out since school.

Taking into account all these contributions, we tried to develop a specific peer review model to be implemented at primary and secondary schools to investigate how it can work outside the university context. According to Nicol (2010), peer review is meant as an arrangement whereby students produce a written

assignment then review and provide written feedback comments on assignments produced by peers in the same domain.

## **7.2. Aim of the research and research questions**

With the aim to explore the literature about peer review as well as the definition of a specific peer review model in school contexts (Grion et al, 2017), a group of researchers and practitioners carried out some experiences in several Italian schools. Our main objective was to understand if a model adapted from the academic context could have been useful also at school. So we would like to understand if this specific model can work in school contexts and have some learning benefits, as in HE?

More precisely we aimed to explore two research questions:

RQ1. How can the model of peer review be used in school contexts?

RQ2. Does the model have some learning benefits in primary and secondary schools, as in higher education?

## **7.3. Research methods**

A group named GRiFoVA (Education and Research Group for Assessment and Learning) was established at the University of Padova (Italy) at the beginning of the school year 2018–2019. Researchers and teachers from primary and secondary school worked on sustainability conditions, strengths, and weaknesses of the model already in HE implemented (Grion et al, 2017; Grion & Serbati, 2019) building a new version for the school context (Restiglian & Grion, 2019) (Tab. 1). Each teacher decided autonomously how to apply it in his/her class concerning times, content, instruments, and then they shared their choices. The model includes five phases, then we decided to add three short questionnaires (3–4 open questions) to understand better what kind of processes the path had activated into students. The statements were adapted by each teacher to be clearly understood by their own students with the important aim to encourage them to reflect upon their learning processes and, therefore, to provide useful information for the research.

**Tab. 1:** *Peer review model (school)*

Phases	Activity
Phase I	Use of <i>exemplars</i> and definition of criteria for a “good” product
Phase II	Individual development of the product
Phase III	Students are paired (or grouped) up to review peers’ (or groups’) product on the basis of the criteria defined previously and to provide feedback
<b>Questionnaire (1)</b>	To detect processes activated while giving feedback to peers
Phase IV	To update of one’s own work after reviewing and before receiving peer feedback
<b>Questionnaire (2)</b>	To detect processes activated after one’s own work update, but before receiving peer feedback
Phase V	To receive feedback from peers and update of one’s own work
<b>Questionnaire (3)</b>	To detect processes activated after receiving peer feedback and to compare
Repetition of the cycle (depending on teacher’s planning)	

198 students, 9 teachers and 11 classes were involved. Different subjects were taken into consideration (Italian language; History; Transversal activities – taking notes) (Tab. 2).

**Tab. 2:** *Context and participants*

School	Grade	N° teachers	N° classes	Subjects	Implementation (2018)
Primary school	4 4	1	2	History	March–April
Primary school	3 3	1	2	Italian	February–June
Primary school	5	1	1	Italian	February–May
Primary school	4	1	1	Italian	March–May
(Lower) Secondary school	8	1	1	Italian	January–March
(Lower) Secondary school	7	1	1	Italian	March–May
(Lower) Secondary school	7	1	1	Italian	March–May
(Upper) Secondary school	9	1	1	Italian	March–April
(Upper) Secondary school	9	1	1	Transversal activities	February–May

Each class experience began establishing and defining criteria after the use of some exemplars (Phase I). So the specific tasks children performed were:

- a) to identify some criteria to create a learning product;
- b) to activate a peer review cycle to improve the final work.

The students went on developing their task (Phase II), for example, of building an informative text, then they were paired or grouped (according to their age) to review the work of mates by using the criteria defined previously and provided feedback (Phase III). The following phase (IV) is focused on the review of one's work before receiving feedback while the last one (V) considers receiving feedback from peers and the subsequent last updating of one's work.

From the research point of view, four different types of data were analyzed through an iterative, inductive bottom-up process of content analysis (Charmaz, 2000) were used:

- a) Written narrative of the whole experience by one teacher for each involved class;
- b) Interviews to teachers;
- c) Students' final products; and
- d) Students' responses to three questionnaires submitted at different phases of the peer review process.

The procedures included an exploratory and participatory research involving data collection, qualitative analysis and shared discussion within the GRiFoVA group.

## **7.4. Results**

### **7.4.1. Primary school**

Classes worked in the discipline "Italian" (first language) or "History," sometimes linked with ICT.

Regarding Italian as the first language, the contents were the development of a descriptive text (3rd grade); the development of a descriptive text from a subjective point of view (5th grade); the production of a historical text (4th grade), and the writing of an email (4th grade).

In primary school, all classes usually worked in small groups, sometimes in pairs when students were used to doing it, and students could freely pose questions or give opinions. Teachers supported, encouraged, and moderate rather than transmit a predetermined knowledge. The advantages of the experience regarded awareness, self-regulation, self-analysis, metacognition, personal skills (about reviewing and changing the text), and pro-social attitudes. Children

could share their way of working and develop care and attention towards the other and co-build knowledge domain. Giving feedback was perceived with a high sense of responsibility by the children who activated comparative processes and could support some possible changes in their texts. Two sentences can help our reasoning: “I felt important for that child because I was helping him to improve” and “I thought that those suggestions could have been useful to me, so I had to use it too; otherwise, it is not possible that I give suggestions and then I myself do not follow them.”

The work with peer review developed assessment skills and critical thinking. Students developed the assumption of responsibility in judgment to understand the importance of thinking before judging without falling into a hurried opinion. Feedback is aimed at the product and not at the performance. Teachers promoted reflection about formative assessment: they worked to learn and to improve and not to judge.

Some disadvantages were observed: students sometimes were too strict or too benevolent while assessing mate’s tasks and texts had to be written digitally. It took a very long time but assured complete anonymity. Teachers reported that it was hard for children to do metacognition through the questionnaires. Young students have to be guided in the process, including modeling the task and some training.

#### **7.4.2. Lower secondary school**

Classes worked in the discipline “Italian as a first language” with a broad perspective. One class (7th grade) prepared criteria for the assessment of a poetic text (for a poetry local school competition), then they wrote a “stanza” about the topic “the night.” Another (8th grade) built a short video about recognizing fake news and how to protect it from them. The last one (7th grade) created a game about logical analysis.

Students worked in small groups and pairs. As for primary school, the first class (7th grade) used paper to keep the works anonymous.

Students observed many aspects through questionnaires. First of all, it is better to find together criteria instead of doing it alone because it is possible to find more objective and defined categories. Giving feedback is the most challenging step because students tried to find the right words to be critical from a constructive perspective, avoiding judgments that could have demotivated peers. It was once more a formative assessment, and mistakes were felt as “key steps” useful to grow up.

The path is not focused on the performance but on the process of achieving it. So it has a very high formative value because it offers students the chance to invest energies on “how to do” so the teacher can understand processes and intervene in the right moment.

A competition was created regarding building a game, and some students were aware they did not give their best.

Also, in this case, two sentences can help: “Being judged by peers is different from being judged by the teacher. Peers can give many points of views and observations, and they help my improvement” and “Having created a product that I feel entirely mine I feel important and able to create something exclusive and innovative.” A teacher noticed the repetition of some revision phase during the path and pointed out strong cooperation and the awareness that each student can create something useful.

### **7.4.3. Upper secondary school**

Two different classes (9th grade) worked with a transversal activity (taking notes in Maths) and in “Italian as the first language” to develop a declarative text about immigration.

Taking notes about literal calculation was conducted in pairs. It was not necessary to keep anonymity. Students recognized their mates’ writing, but they commented on it with absolute non-involvement, just trying to apply the work’s coherence with the criteria that had been established before.

The teacher who guided the work about the declarative text pointed out that an efficient peer review activity with young students should cover more time to foster the settling of procedures and knowledge. Repeating the peer review model (cycle) could have allowed better results.

## **7.5. Discussions**

Classes where students worked with active methodologies (e.g., circle time, peer tutoring, some cooperative learning) achieved the best results. In general, working with peer review allows students to improve their sense of community characterized by healthy reciprocal respect.

Each student had the opportunity to develop or improve the three aspects that characterize the peer review model: assessing one’s skill level, the esteem of the possibility to gain success, and the importance assigned to the task and the situation.



Students can develop competencies only if they are aware of how they learn. The teacher has to plan learning environments that made the learning visible, putting the student in a context where it is possible to build in-depth knowledge significant and transferable. As Hattie writes (2012), when the teacher makes learning visible, he/she educates students to become teachers by lightening their love for learning and continuous improvement.

Such kind of learning experience becomes significant for the student in the immediate future, for he/she can prove “what he/she can do with what he/she knows,” and for the future when he/she will be asked to develop skills and knowledge, he/she still has not got to realize new tasks within new contexts.

Working with peer review allows us to create a “thinking citizen” and promote and foster key citizenship competencies.

Data gathered during the experience appeared essential to support the research questions. About the first one (RQ1. How can the peer review model be used in school contexts?), it is possible to declare that the peer review model seems to work in school contexts. Teachers appreciated it as a powerful method to implement:

- an active role of pupils in learning and assessment activities,
- a reflective approach on their products,
- processes of self-assessment (Harris & Brown, 2013).

Also, the possibility to obtain some learning benefits in primary and secondary schools, as in higher education (RQ2), is confirmed.

However, some critical points and precautions are needed:

- *Anonymity*: Students may feel uncomfortable to be assessed by peers (Vanderhoven, Raes, Schellens, & Montrieux, 2012). Anonymity is recognized as an effective strategy to avoid these problems. It appears particularly relevant in primary school, where teachers often used a technology-mediated peer review.
- *Long-term commitment*: Younger students need more time to understand the peer review’s significance and process than college students. Therefore, implementation of peer review with K–12 students, to be effective, may take considerable time.
- *Training*: Training is needed for students – in contrast to previous research (Tsivitanidou, Zacharia, & Hovardas, 2011) – in particular for students struggling academically, to create and apply criteria effectively (Rotsaert, Panadero, Schellens, & Raes, 2018).

## 7.6. Conclusions

The model seems to support the development of the *assessment literacy* and the processes related to a *sustainable assessment perspective*. It seems particularly important that people can develop assessment skills that are necessary for the whole life. Everyone has to decide continuously between different things and aspects: what to do, where to go, how to reply, how to behave. It is a matter of assessment. By developing assessment skills since school, we can contribute to the growth of self-efficacy and self-regulation.

To benefit from the showed potentialities of this model in school, there is a need to think about the more frequent use of the peer review during the daily activities in school.

Further, forthcoming analyses would provide additional information. Because of the Covid-19, we are now deciding how to carry on the experience. Some useful input can come from the use of online assessment tools.

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## **Chapter 8 Pilot Study on Enhancing Collaborative Learning of Teachers for Professional Development in Myanmar Schools**

**Abstract** In recent years, the government has launched an ambitious and wide-ranging series of economic, political and governance reforms that are impacting all aspects of Myanmar society. To improve the quality of education, professional development of teachers is very essential and changes in classroom practices demanded by the reforms ultimately rely on teachers (Fullan & Miles, 1992). So, the aim of the presentation is to investigate what are the main characteristics of teachers' collaborative learning and how it can be enhanced for their professional development in schools. The data of this presentation is based on the responses of the interviews with five school teachers who were selected by purposive sampling because this presentation focuses on the perceptions of teachers on collaboration and professional development who have different teaching services working in different schools (primary schools and high schools from urban and rural areas in Yangon Division, Myanmar). Findings show that teachers perceived that collaborative learning can develop professional development, and they can discuss and share different ideas and perspectives and this kind of learning can improve their knowledge. They learned together in their school mostly from informal discussions. Teachers perceived that some trainings for professional development of teachers given by Ministry of Education are effective. The principal takes main role in school decision-making in some schools and the shared leadership is given to teachers in some schools. Moreover, issues such as over workload, time, too much concentration on school pass rate, isolation among teachers for professional talk, inequality of student–teacher ratio, weakness of shared decision-making and motivation and support from principals have also emerged from the data.

**Keywords:** collaboration, professional development, leadership.

## **8.1. Introduction**

### **8.1.1. Context of Myanmar**

Myanmar is situated in a geographic region that is bordered on the north and northeast by China, on the east and southeast by Laos and Thailand, on the south by the bay and, therefore, the Bay of Bengal and on the west by Bangladesh and India (country overview @ [www.themimu.info](http://www.themimu.info), n.d.).

According to National Education Strategic Plan (2011), Myanmar has initiated a period of profound political, economic, and social change involving three major transitions to a democratic governance system, a market-oriented economy, and peace within its border areas. These transitions have the potential to make an opportunity and shared prosperity for the people of Myanmar which will enable the country to resume its place in the foremost dynamic economies in Asia. The government has launched ambitious and large-scale reforms in economy, policy and governance that impact all aspects of Myanmar society. It has identified that education and poverty alleviation as key drivers to attain the national goal of Myanmar being a middle-income country by 2030. The government acknowledges that students can do their career and lifelong learning goals and aspirations from quality and accessible education through multiple formal and alternative education pathways. Quality and accessible education plays a central role in economic progress and national development (NESP, 2011).

Moreover, it is said that a nation's success depends fundamentally on the knowledge, skills and competencies of its people in today's global economy so countries that invest well in education can get long-term benefits with greater economic and social prosperity. Education can provide individuals with opportunity to enhance their lives, become successful members of their communities and it is also fundamental to nation building and national unity. It provides individuals with the chance to enhance their lives, to become successful members of their communities and to contribute actively to national development (NESP, 2011).

### **8.1.2. Collaboration**

Collaboration has a positive influence on teacher learning through sharing experience, ideas and, in turn, teacher learning affects students' performance through enrichment of subject knowledge and instructional skills. In addition, teacher collaboration reduces teachers' overload by sharing material and provides moral support for their colleagues (Shakenova, 2017).



In the study of Friend and Cook (1990), it is mentioned that three characteristics of collaborative relationships are necessary emergent characteristics of collaboration. First is a belief or attitude system which values rationality and it implies that participants must be willing to experiment with a collaborative approach. Second is trust and individuals must initially trust their colleagues enough to commit their time and energy to the collaborative activity. The third reason is that the establishment of a way of community through the beginning of collaboration, community is exemplified by participants' attempts to formulate a standard language through which to speak and as collaboration proceeds, community extends to become a culture that surrounds the activity.

Moreover, the study reveals that there are three factors considered pivotal in creating a collaborative culture: clear expectations for teacher activity to be collaborative; the cultivation of trusting collegial relationships; and also the development of proficiency within the processes of group work and these factors must strengthen the connection between teachers' beliefs and their practices (Leonard & Leonard, 2001).

### **8.1.3. Leadership in collaboration**

Collaboration must have a transparent structure and it includes time during the school day, means of creating and recording group goals and methods for recording within the work wiped out each collaborative meeting. Leaders in schools with collaborative professional development must help build leadership capacity within teachers and supply regular, substantive feedback to teachers regarding their collaboration and teacher self-efficacy increases thanks to participation in collaborative professional development.

The research showed that teachers who perceived major instrumental support and encouragement were those who had higher average values of participation in planning and development of curricular activities. Moreover, teachers who perceived further support for professional development participate in additional recreational, academic and interdisciplinary activities, while the teachers who perceived greater emotional and informational support are more fascinated by participating in collaborative practices (Castro Silva, Amante, & Morgado, 2017).

In the article "Workplace conditions for successful teacher professional development: School principals' beliefs and practices," the school principals' greater attention to expertise was internal to the school and to knowledge exchange when talking about teachers' professional development. And rather than searching for expertise outside the school, they emphasized the provision of human capital within their organization and the importance of information sharing within

the school. Besides individual professional development, they often stated team meetings and schoolwide study days. Principals experienced difficulties in stimulating teachers' learning attitude. At over half the school, it is found that "collaboration" was stimulated in several ways and teachers used peer consultations, classroom visits or "lesson study," a way of preparing lessons together. Teachers found these methods valuable because they were able to discuss education. There are opposite strategies like organizing substitute coverage (to enable teachers to watch each other), using slogans like "we learn from and with one another" and implementing an open-door policy in order that teachers could observe each other (Gaikhorst, März, du Pré, & Geijsel, 2019).

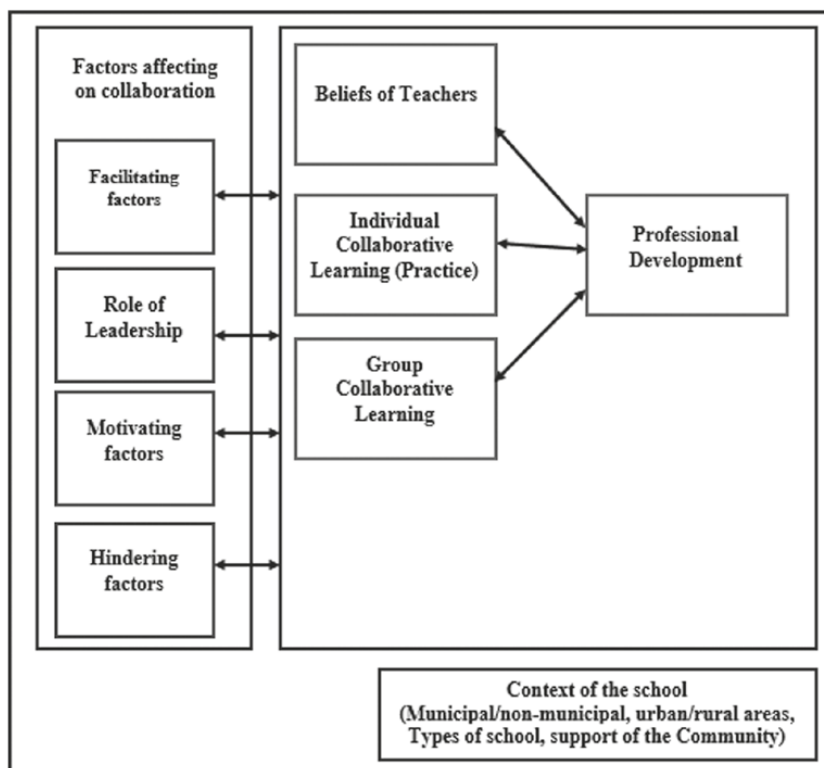
It also shows that there are significant differences between primary and secondary schools. Teacher collaboration is seen more in primary schools than in secondary schools and they perceived support from school leader than secondary school teachers. But secondary teachers have chance to participate in curricular and instructional decision-making and satisfied with the extent to which they participate in curricular and instructional decision-making more than primary teachers. And there is a difference in teacher collaboration between primary schools and secondary schools. In secondary schools, only "the perceived support from the school leader" directly affects "teacher collaboration." But in primary schools, both "satisfaction concerning participation in curricular and instructional decisions" and "teacher orientation towards student performance" have a direct effect on teacher collaboration, additionally to "perceived school-leader support (Honigh & Hooge, 2014).

#### **8.1.4. Professional development**

Witterholt, Goedhart, and Suhre (2016) define teachers' practical knowledge as "the knowledge, skills and beliefs teachers use to practice their profession. It revealed that the network environment helped teachers to exchange ideas and to debate concerns. This helped teachers to change to new pedagogies and led to the development of their practical knowledge and it absolutely was an environment characterized by both trust and challenge and teachers felt safe to reflect on their knowledge and experiences during this network. The important stimulating factor is that the support by the school administration by giving the chance for "joint work" in departments. "Joint work" not only cause teachers' development, but it also contributes to a shared view on teaching.

Three major goals of professional development programs are the change in the classroom practices of teachers, change in their attitudes and beliefs, and change in the learning outcomes of students (Thomas, 2002). Moreover, professional

education curricula should be designed to reflect the changing education profession. It is suggested that teacher trainees, in-service educators, and faculty administrators should acquire the abilities for participating in collaborative activities in creating a climate for reform and making decisions which can facilitate or constrain reform implementation (Friend & Cook, 1990). The following figure shows that factors enhancing collaborative learning of teachers for professional development.



**Fig. 1:** Factors enhancing collaborative learning of teachers for professional development

### 8.1.5. The research gap

Learning is cognitive, affective, and practical in the daily process of teacher activity and professional development. It concerns what the teacher thinks, feels,

and does, and these aspects interconnect to constitute learning. This can be according to an “integrated approach to professional learning” that mixes theory and practice (Menter & Mclaughlin, 2015). To enhance quality of education, professional development of teachers is very essential and changes in classroom practices demanded by the reforms ultimately depend upon teachers (Fullan & Miles, 1992).

In Myanmar, teachers are perceived as role models of students by society and are responsible for all round development of students. There are many reforms in every sector like politics, education, and economics within the country. The government is maintaining attention on the education sector and trying to upgrade it but there are still many challenges and barriers to overcome within the process of education reform in Myanmar. In the implementation of curriculum reform, ensuring that teachers and students are familiar with the changes is extremely challenging since they are accustomed to the previous education system of chalk and talk teaching and memorization (Soe, Swe, Aye, & Mon, 2017). So, the teachers must develop professional skills and need to be supported by professional development programs to overcome these challenges.

Collaborative learning of teachers and collaborative cultures of schools can enhance change, adaptation, and renewing education. Collaborative cultures foster and build on qualities of openness, trust, and support among teachers. There is a two-way effect of collaboration and professional development, through the promotion of collaborative practices and/or projects at school. As a result, learning has been enhanced, and proactive and creative responses to local issues have been generated successively (Forte & Flores, 2014).

The importance of teacher collaboration is incredibly essential for his or her professional development and the development of the schools. So, it must emphasize for enhancing collaborative culture among teachers in schools and how teachers and school leaders perceive the importance of teacher collaboration and how they try to practice this culture in schools in Myanmar. Moreover, the role of stakeholders is very important, and that they also must support professional development of the teachers. Therefore, teachers, principals, and stakeholders play a main role in enhancing collaborative culture in schools and it is important to evaluate whether the research tool used in this pilot study can add in Myanmar’s context for enhancing the collaborative learning of teachers for the professional development in Myanmar.

## **8.2. Research questions/aims of the research**

### **8.2.1. Aim of the research**

- To investigate what are the main characteristics of teachers' collaborative learning and how it can be enhanced for their professional development in Myanmar schools as a pilot study.

### **8.2.2. Specific aims of the research**

- To find out (1) if there are some specialties in Myanmar context and what should be focused in the research on collaborative learning of teachers.
- To find out (2) how the research tool (interview questions) can work in this context.

### **8.2.3. Research questions**

- What are beliefs of teachers on collaboration in schools?
- What are the perceptions of teachers on educational programs for professional development?
- How do teachers perceive collaborative culture (including supportive factors and difficulties) in schools?

## **8.3. Research methods**

### **8.3.1. Participants**

The participants in this research involves five school teachers who have different teaching services working in different schools (primary schools and high schools from urban and rural areas in Yangon Division, Myanmar). They are chosen by purposive sampling method to explore the perceptions of teachers from different school context who has different teaching services on collaborative learning. The following table shows the demographic data of the participants.

**Tab. 1:** *Demographic data of participants*

	Teacher 1	Teacher 2	Teacher 3	Teacher 4	Teacher 5
<b>Teaching service</b>	8 years	12 years	2 years	30 years	7 years
<b>Educational qualifications</b>	Bachelor of Arts Diploma in teacher education	Master of Education	Bachelor of Education	Bachelor of Science, Bachelor of Education	Bachelor of Education
<b>Position</b>	Primary school teacher (urban area)	High school teacher (urban area)	High school teacher (rural area)	High school teacher (rural area)	High school teacher (urban area)

### 8.3.2. Materials and instruments

The instrument used in this research is interview questions that were developed to measure beliefs of teachers on collaboration, educational programs for professional development and collaborative culture in schools.

### 8.3.3. Procedure

This pilot study is a qualitative study, and all the data come from interviews. The interview was conducted individually to get their perceptions on the collaborative learning after getting ethical permission from the participants. The personal data of the participants will be confidentially kept. The data of the interview was analyzed by the thematic data analysis.

## 8.4. Results

### 8.4.1. Beliefs of teachers on collaboration

It is revealed that teachers believe that collaboration can make professional development but less collaboration is found in their schools. The teachers study alone in searching for new knowledge and skills and they often share them with their colleagues. The primary school teacher who works in a school in the urban area states:

Teacher 1: "... I believe that 'we can develop our professional learning by creating an environment that can foster to talk and discuss different experiences and understandings'. But I never initiate it in schools, and I plan my lessons and programs myself. In the previous academic year, my junior asked me how to approach lessons and I shared them..."

Moreover, it is good that the teachers have positive attitude to collaborate with one another but they did not perform in their practical experience in schools.

In the relationship with their colleagues, some are familiar with each other, but some are not connected to each other so their activities in schools are individually done. One of the high school teachers who works in a school in rural area states:

Teacher 3: “... I work together with my colleagues and I always lead and motivate them in the group. When I have challenges in my work (student discipline problems), I usually discuss with my colleagues and it makes me to see from different perspectives...”

#### **8.4.2. Educational programs for professional development and collaborative learning**

It is very important that Ministry of Education gives educational programs to teachers for their professional development. Trainings for teachers are for developing pedagogical strategies for student academic achievement. The teachers have experience in educational training in their respective subjects. The primary school teacher who works in a school in the urban area states:

Teacher 1: “...According to my experiences, I have attended in trainings for five times for new curriculum. The training is effective for me and the techniques are very helpful for me. The instructors are very helpful, and they instruct teachers carefully. The strategies I learned from the trainings are really useful in my classrooms for me...”

In Myanmar schools, there is a new reform that the in-service training for new curriculum is initiating. It is a good move for enhancing collaborative learning for teachers and teachers have good positive attitude on this new training. One of the high school teachers who works in a school in rural area states:

Teacher 4: “...According to my knowledge, the government has policies for the professional development of teachers. Now, the new training for new curriculum is continuous professional development training that starts in schools. I think that the instructional strategies mentioned in CPD are modernized and they can develop teacher collaboration, and we need to try to develop these strategies...”

Although educational trainings can develop teachers for their professional development, but teachers think that not all trainings can be effective. Some trainings can give teachers to be able to apply in real classrooms are effective, but they think that the trainings which can give only knowledge are not very applicable with their daily classroom teaching. One of the high school teachers who works in a school in urban area states:

Teacher 5: “...*The government gives teachers training for subject improvement and academic achievement of students. These trainings are effective for teachers who have little service year in teaching, but these are not effective for teachers who have much teaching service. If the professors from university give training, it will be more effective for teachers...*”

### 8.4.3. Collaborative culture in school

A significant finding from the interviews that leadership of principal is influential in the schools. In the school meetings, principal mostly leads the meeting and there is less discussion of teachers in the meetings. The principal makes meeting mostly at the end of the month and it is found that the teachers are listeners and follow the principal's instruction. In some schools, the principal gives the chance to tell, but the teachers are not willing to discuss in the meeting. But in some schools, the silence in the meeting becomes culture in school meeting. One of the high school teachers who works in a school in rural area states:

Teacher 4: “...*In the meeting, I have never seen that teachers discuss and tell their perspectives and so do I. In meeting, the principal is the main leader and gives instruction and teachers listen and follow her instruction. The grade dean also informs the teachers what teacher should do informally...*”

#### 8.4.3.1. Supportive factors

It is good culture that the seniors help the newcomers to be familiar with school activities. It is found in the schools and teachers help and give advice to the newcomers warmly and informally. One of the high school teachers who works in a school in urban area states:

Teacher 5: “...*I have my seniors and they help me informally and give me advice in school and I can do with the help of my seniors in the new school...*”

Moreover, the leadership of subject deans and grade deans can support teachers in their profession. But it depends on types of schools. In some primary school, there is only grade deans and they help teachers and guide how school functions. The primary school teacher who works in a school in the urban area states:

Teacher 1: “*The Grade Dean leads weekly meetings (no subject dean, primary school) and she helps us how schoolwork does (school attendance, reading diary, notes of lessons and other documents...*”



### 8.4.3.2 Difficulties

There are some difficulties in collaborative learning for teachers. One of the difficulties is the lack of collaborative culture in schools. In schools, there is too much isolation among teachers for professional talk. That kind of culture for professional talk is necessary among teachers. Shared decision-making is lacking in schools and the principal is the only one who makes decision in school. The lack of collaborative culture can hinder collaborative learning of teachers.

Another difficulty is the lack of motivation. In schools, the principals do not motivate teachers for enhancing collaboration and professional development. Moreover, the working conditions make teachers hinder teacher collaboration. Time, over workload, school facilities are the difficulties teachers face for their collaboration. One of the high school teachers who works in the school in the urban area states:

Teacher 2: “...*There is no formal meeting for subjects but paper meeting. There is no separate room for teachers to take rest and to discuss and they stay outside classroom; I teach five times a day at least. In my free time, I do the other works(corrections)...*”

A significant finding is the difficulty that teachers face regarding the large student–teacher ratio. In one classroom, there are over 60 students with 1 teacher. Teachers are tired about controlling this huge number of students and ensuring an effective teaching learning process. Moreover, teachers are using their time by doing the tasks that are not concerned with teaching. One of the high school teachers who works in the school in the urban area states:

Teacher 5: “...*The teachers do the tasks that are not concerned with them (watching students near toilet) more than teaching tasks...*”

## 8.5. Discussions

The main aim of this pilot study is to investigate the main characteristics of teachers’ collaborative learning and how it can be enhanced for their professional development in Myanmar schools (in urban and in rural areas in Yangon Division).

The analyses of the interviews showed that the teachers have positive attitude in collaboration with their colleagues, but it is rare in experience. It is aligned with the research of Leonard & Leonard (2001), in terms of teachers’ beliefs about the nature of professional relationships, teachers in this study believed that teaching should be based on cooperation and teamwork. However, they perceived their schools as characterized by competition and individualism to greater degrees than desirable. Teachers also saw people liking each other as

important to collaborative ventures. Accordingly, they believed that professional collaboration would be enhanced if there were a greater affinity among teachers. But the other research found that the link between the belief profiles and teachers' participation in continuous professional development (CPD) as the higher the rank of the belief (i.e., higher scores on subject matter and student orientation), the higher the teacher's participation in CPD (De Vries, Van De Grift, & Jansen, 2014).

The Ministry of Education provides trainings for teachers to be skillful in their teaching and to improve student achievement, but these trainings are needed to be effective for professional development of teachers. In the research of Kuusisaari (2013), the findings provide evidence that in-service education is a potentially powerful part of the continuing professional development of teachers. Long-term academic in-service education that are based on to be familiar with learning theories and collaborative knowledge creation could be a good approach to support teachers' professional development. Moreover, it also supported that the organized in-service education facilitated teachers in connecting learning theories to the practical knowledge of teaching.

A significant finding from the interview that leadership of principal is influential in the schools. In the school meetings, principal mostly leads the meeting and there is less discussion of teachers in the meetings. It is very important to consider because shared decision affect trust among teachers, create and sustain a positive school culture, and affect how teachers view school decision-making (Fairman & Mackenzie, 2015).

In schools, there is too much isolation among teachers for professional talk. Flinder (1988) defined teacher isolation into two different orientations. The first orientation is as the conditions in which teachers work (the characteristics of the teacher's workplace) and the opportunities or lack of opportunities, the teacher has for interaction with colleagues. The second one is as a psychological state rather than as a condition of work. It is located inside the individual as it is created and continually recreated through the filtering and processing of information. This isolation can hinder teacher collaboration so teachers should be encouraged and supported to enhance professional collaboration.

But it is specially found that the seniors help the newcomers to be familiar with school activities. It is a good culture in schools and the newcomers can start their profession well in a new workplace. According to Roberts and Pruitt (2003), the main task of a mentor is to support novice teachers and help them with the curriculum, improving instructional skills and classroom management. Even though mentoring is not well developed in these schools, this culture of helping newcomers is a positive way to improve collaboration among them

because experience colleague can be a mentor, formally or informally (Bronstein, 2013) and getting feedback from experienced people is particularly important in developing skills.

In schools, time, over workload, school facilities are the difficulties teachers face for their collaboration. In the case study of Collinson and Cook (2013), it is described that time and work overload as the main factors that restrict opportunities to learn and share and they are interdependent on one another. If teachers have common time and goals at the same time, this can provide to increase collaboration among them.

The significant finding that the difficulty that teachers face is large student-teacher ratio. In the book of reflective practitioner by Donald Schön, teacher's isolation in her classroom is against reflection-in-action and she needs to communicate with the peers and needs to expand her interest in students. To encourage reflective teaching, a school needs to manage student-teacher ratio much smaller than 25 to 1 so that the teacher can manage her students well in the classroom and can listen to their voice (Schön, 1982). It is very important to make balance between the number of teacher and student ratio in the classroom.

In schools, teachers do not have separate room to take rest and discuss each other in their free time. The insufficient physical condition can hinder teacher collaboration (Shakenova, 2017). Louis and Kruse (1995) described that teachers should be in close proximity to one other, so that they can observe each other and can discuss teaching and learning easily. Stoll, Bolam, McMahon, Wallace, and Thomas (2006) said that having access to the physical space to meet colleagues can promote the collaboration within a school and it is much better to have a place where teachers can have refreshments and discuss different professional issues in the same building. Moreover, they also state that it is much better to have a place where teachers can have refreshments and discuss different professional issues in the same building (Stoll, Bolam, McMahon, Wallace, & Thomas, 2006).

One of the difficulties that teachers face is the lack of motivation. In schools, the principals do not motivate teachers for enhancing collaboration and professional development. In the research of Honingh and Hooge (2014), it shows that the teachers who receive support from their school leaders are more likely to engage in collaboration and as teacher collaboration is effected by perceived school leader support, teacher collaboration can be seen as a product of cultural management (Lavie, 2006).

### **8.5.1. Limitation**

This study is a pilot study, and it focuses on the perceptions from small scales of teachers so it cannot reflect all teachers in schools of Myanmar. So, large-scale research on teacher collaboration is needed. Moreover, perceptions upon school leaders and teacher educators regarding collaborative culture for professional development should be studied.

## **8.6. Conclusions**

Collaborative learning is an important one for teachers to develop their profession. This pilot study shows the perceptions of teachers on collaborative learning in schools, how ministry supports teachers for their professional development, collaborative culture in schools including supportive factors and difficulties teachers face for enhancing collaborative learning in schools. Teachers perceived that collaborative learning can develop professional development and they can discuss and share different ideas and perspectives and this kind of learning can improve their knowledge. There are educational programs for teachers for their pedagogical improvement and trainings for new curriculum. In schools, principals take main role in decision-making and sharing decision-making power is seen only in some schools. Moreover, issues such as over workload, time, too much concentration on school pass rate, isolation among teachers for professional talk, inequality of student-teacher ratio, weakness of shared decision-making and motivation and support from principals are difficulties of teachers face in schools for ensuring their collaborative learning. It is concluded that it should be more focused on enhancing collaborative culture in Myanmar school, not only in knowledge but also in practice. The support of principal and other stakeholders is much needed to enhance teacher collaboration. According to the research findings, the research tool (interview questions) can work in the context of Myanmar. So, it can be modified to apply in my PhD dissertation in teacher collaborative learning and it can help the future researchers who are interested in collaborative learning and professional development.

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## **Chapter 9 Improving Teacher Motivation – a “What If” Insight**

**Abstract** More than an intrapersonal factor, teacher motivation is considered to be a crucial determinant for education because of its relationship with student’s motivation. Despite these evidences, numerous research results highlighted that teachers show lower levels of motivation than other professions. This chapter reports the results of a “What if” inquiry on teachers’ motivation in order to determine optimal intervention strategies. The study was conducted using the Multidimensional Work Motivation Scale (Gagne et al., 2015). The scale was filled in for five main tasks that teachers were asked to perform: class preparation, teaching, evaluation of students, administrative tasks, and complementary tasks (Fernet et al., 2008). The participants were 40 elementary and secondary teachers. Teachers’ scores were contrasted with the 25 managers perception on teacher motivation involved in the same tasks. The comparative analyses on projective motivation provides directions of enhancing teachers’ motivation.

**Keywords:** teacher professional motivation, self-determination, in-service teacher, teacher motivation development.

### **9.1. Introduction**

Numerous studies have shown that lack of motivation is one of the main problems of the teaching profession. Investigating the motivational structure of teaching process represents the first condition as well as the first step of any intervention aiming to improve teachers’ motivation and, subsequently, positively influence the teachers’ practice (Benita, Butler & Shibaz, 2019; Retelsdorf & Günther, 2011; Retelsdorf et al., 2010; Thoonen et al., 2011). Interventions on teachers’ practice through enhancing teachers’ motivation must take into consideration the internal and external context of this variable. Consequently, a wealth of studies correlates teacher motivation with other teacher-related variables, namely teacher’s self-efficacy (Canrinus, Helms-Lorenz, Beijaard, Buitink, & Hofman, 2012; Klassen & Kiu, 2010; Mahler, Großschedl, & Harms, 2018; Saracaloğlu & Dinçer, 2009), teachers’ responsibility (Lauermaann, 2017; Lauermaann, Karabenick, Carpenter, & Kuusinen, 2017; Ames, 1975), teacher’s

locus of control (Cheng, 1994; Ignat & Clipa, 2010; Neves de Jesus, 2005; Schipor & Schipor, 2014; Smith, 1997; Sünbül, 2003), teacher's job satisfaction (Bishay, 1996; Canrinus, Helms-Lorenz, Beijaard, Buitink, & Hofman, 2012; Davis & Wilson, 2000; Mertler, 2002; Skaalvik & Skaalvik, 2011), teacher's self-esteem (Reilly, Dhingra, & Boduszek, 2014), teacher well-being (Lauermann & König, 2016; Skaalvik & Skaalvik, 2018), and teachers' stress and burnout (Anderson & Iwanicki, 1984; Schonfeld, 2001). Another related field of study investigates the teacher motivation impact on student-level variables such as motivation, self-esteem, and learning outcomes (Bernaus & Gardner, 2008; Bernaus, Wilson, & Gardner, 2009; Radel et al., 2010; Pelletier, Séguin-Lévesque, & Legault, 2002; Roth, Assor, Kanat-Maymon, & Kaplan, 2007).

The main contribution of this study is to find out several possible optimal intervention strategies starting from subjects prospective perception.

### **9.1.1. Teacher motivation**

Motivation has been conceptualized as the energy or drive that determines people to act towards their aims, setting the magnitude and the direction of the human behavior (Dörnyei & Ushioda, 2001, 2011) and, therefore, it can be seen as the initiating and sustaining factor of activities. From these perspectives, motivation activates the reason, develops a temporal perspective of the action (sustaining), and unleash the amount of energy corresponding to the perceived aim.

A wealth of studies sustains the professional stress as being the main demotivating factor for in-service teachers (Anderson & Iwanicki, 1984; Dinham & Scott, 2000; Dörnyei & Ushioda, 2011; Kızıltepe, 2008; Neves de Jesus & Lens, 2005; Schonfeld, 2001). In addition to stress, Dörnyei and Ushioda (2011) pointed out another four demotivating factors, such as limited teacher autonomy, low self-efficacy, reduced career perspective, repetitiveness, and reduced potential for intellectual development.

Teachers' beliefs regarding their students is revealed as being an important factor of in-service teacher motivation. The studies sustained that skepticism and disbelief attitude of teacher towards students' abilities and their academic progress leads to the decrease of enthusiasm and feeling of control. In contrast, teacher reporting enthusiasm and reliability in students' potential scored higher levels of teaching motivation (Atkinson, 2000). This perspective brings into discussion the teacher attitude towards teaching practice as a variable indirectly related to the teacher motivation. In their study, Thoonen, Slegers, Oort, Peetsma, and Geijsel (2011) revealed that three of the teacher motivational dimensions (namely teacher perceived value, teacher well-being, and job



satisfaction) have the most salient effect on teacher practice improvement and teacher engagement in professional learning activities.

### 9.1.2. The research framework

The social learning theory of internal-external control (Rotter, 1960) and the self-efficacy theory (Bandura, 1977) are both theories of motivation that are frequently involved to study teachers' motivation without converging to a unitary model. The teachers' competence is the core concept that is investigated by these theories and permit predictions on teachers' intentional behavior. Self-determination theory (STD) developed by Deci and Ryan (1985, 2000) underline the epistemic and practical necessity to involve the self in motivational dynamic. According to this theory, the motivational process is different when the determination is external controlled from the situation when it is self-determined. Involving the quality dimension of motivation, STD highlights the experience of choice, the feeling of personal endorsement activated in regulation of behaviors.

This theory proposes a three-dimensional view on motivation, each type of motivation being characterized by the different levels of self-determination. The motivational continuum starts at the lowest level with amotivation, continues with extrinsic motivation and ends with intrinsic motivation.

- **Amotivation** is specific to individuals who have no intention of engaging in a particular behavior and, if they must do an action, they do not know why they are doing it. The absence of motivation describes this process.
- **Extrinsic regulation** supposes the situations when the behavior is instrumental to an aim, activating external reinforcement. STD differentiates extrinsic regulation in three different types: *external regulation*, activated when behaviors are regulated to obtain external rewards or avoid external punishments, *introjected regulation* is described as a situation when an external constraint becomes an internal control force, such as shame or guilt, and *identified regulation* defined by the situation when the person chooses to act because of the congruence of the action with his goals and values, the activity is an instrument to build his own identity.
- **Intrinsic motivation** is defined as doing an activity for the satisfaction derived from the activity performed. Doing the activity is not an instrument, it is the reward itself and satisfaction is inherent.

High self-determined types of motivation are associated with enhanced psychological functioning, with more job satisfaction, less turnover intentions, and less

job burnout (Blais, Brière, Lachance, Riddle, & Vallerand, 1993; Deci & Ryan, 1980; Richer, Blanchard, & Vallerand, 2002).

This study intends to inquire the teachers' and managers' conditional motivation perception in order to create some directions of successful management interventions.

## **9.2. Purpose of the study**

We examine in this work the projected self-determined teachers' motivation in order to:

- Understand the self-perceived teacher-projected motivation in relation with manager-perceived teacher-projected motivation.
- Find out possible optimal intervention strategies starting from subjects prospective perception.

We expected to detect significant differences between teachers' projected self-determination motivation and principals' perception on their subordinate's projected motivation. The results are the starting point for identifying directions to improve teachers' motivation.

## **9.3. Research methods**

### **9.3.1. Participants**

Forty-one elementary and secondary teachers (31 female) and 25 school managers (14 female) from Romanian schools with ages between 23 and 64 years ( $M = 40.54$ ,  $SD = 12.14$  years) participated in our study.

### **9.3.2. Measures**

The comparative study used the between-subjects design. Because of the task contextual orientation of the motivation, we assessed the teachers' motivation from the content domain specificity perspective (Fernet et al., 2008). The Multidimensional Work Motivation Scale (Gagne et al., 2015) was filled in for five main tasks that teachers were asked to perform: class preparation, teaching, evaluation of students, administrative tasks, and complementary tasks. The subjects have had access to short examples of these teaching tasks at the end of the scale. The items from the MWMS scale are rated using seven-point Likert scales. Cronbach's Alpha analysis revealed a very good reliability (.94).

### 9.3.3. Procedure

The dependent variables measured teacher motivation on five dimensions: amotivation, external regulation (material and social), introjected regulation, identified regulation, and intrinsic motivation. Each variable was contextualized for five main sub-variables: class preparation, teaching, evaluation of students, administrative tasks, and complementary tasks. The variable PROFESSIONAL-SUBJECT-STATUS used as an independent variable with two categories (teachers and managers) allows us to investigate the perceived perspective on teachers' motivation. Four items scale was applied to measure the perceived motivational increasing if external regulation (material and social), introjected regulation, identified regulation, and intrinsic motivation condition would be satisfied.

## 9.4. Results

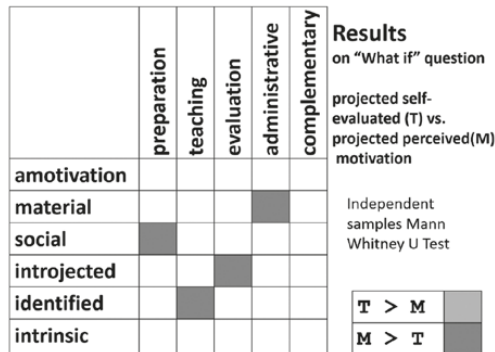
We used the MMWS measurements in order to understand the differences between the projected teachers' motivation and the projected teachers' motivation perceived by managers.

The SUBJECT-STATUS variable allows us to obtain the perceived increasing of the motivation for a specific task in the condition of satisfying external regulation (material and social), introjected regulation, identified regulation, and intrinsic motivation condition. As Tab. 1 shows, there are four significant differences between teachers and managers when it is to compare their perceived conditional projection on motivation. Managers consider that teachers would feel more motivated for class preparation if teachers' social external regulation would be satisfied (Median = 6.00, Mean rank = 42.5) than teachers consider (Median = 5.00, Mean rank = 28.1),  $U = 287.500$  ( $Z = -3.040$ ),  $p = .002$ , with a medium size effect ( $r = .374$ ). Satisfied identified regulation is considered a condition for motivated teaching in a larger extent by managers (Median = 6.00, Mean rank = 46.58) than for teachers (Median = 4.00, Mean rank = 25.52),  $U = 185.500$  ( $Z = -4.412$ ),  $p = .000$ , with a large size effect ( $r = .543$ ). Managers consider that teacher would be more motivated for evaluation tasks if their introjected regulation would be satisfied (Median = 5.00, Mean rank = 40.64) than the teachers consider (Median = 4.00, Mean rank = 29.15),  $U = 334.000$  ( $Z = -2.408$ ),  $p = .016$ , with a small size effect ( $r = .296$ ). Administrative tasks are perceived more by managers (Median = 6.00, Mean rank = 45.30) than by teachers (Median = 4.00, Mean rank = 26.30) as being motivated if the external material regulation is satisfied  $U = 217.500$  ( $Z = -4.006$ ),  $p = .000$ , with a medium size effect ( $r = .493$ ).

**Tab. 1.** Between group Mann-Whitney values for conditional motivational projection

Variable	Task	Status variable	median	mean rank	U	Z	p	Size effect
Social external regulation	class preparation	teachers	5.00	28.01	287.500	-3.040	.002	0.374
		managers	6.00	42.50				
Identified regulation	teaching	teachers	4.00	25.52	185.500	-4.412	.000	0.543
		managers	6.00	46.58				
Introjected regulation	evaluation	teachers	4.00	29.15	334.000	-2.408	.016	0.296
		managers	5.00	40.64				
Material external regulation	administrative tasks	teachers	4.00	26.30	217.500	-4.006	.000	0.493
		managers	6.00	45.30				

Figure 1 describes the significant differences between managers and teachers for conditional motivation projection. The results suggested that managers perceived teachers as being more motivated for class preparation if they receive social rewards. Similarly, managers consider that teachers would be more motivated for teaching if they would have the possibility to feel this activity as an identity trait and that evaluation would be more motivated by their internalized rules. Material rewards are considered into a higher extend by managers than by teacher as being good instruments for motivating the administrative tasks.



**Fig. 1.** Synthetic results presentation teachers' self-evaluated motivation vs. teacher motivation perceived by managers

In sum, this study proposed to contrast the teachers and managers perception on the projected motivation of teachers. The identified differences could become the starting point of the teacher motivation improvement process.

## 9.5. Discussions and conclusions

Our study revealed the differences between teachers and managers in terms of their projected perception on teachers' motivation. Given the obtained results, the major concern is that the perception of teachers and managers on the motivational process does not fit in terms of perceived ways for modifying teachers' motivation. These differences could undermine the managerial process of enhancing teacher motivation, especially at the intrinsic level. Intervention is obviously necessary.

The results showing that almost all the educational tasks are perceived by managers as being motivated by extrinsic regulation strategies could imply principals' tendency to relay most on external incentives and, therefore, hold over teachers' intrinsic motivation strategies.

Perceiving teachers as being more motivated for class preparation if they receive social rewards, considering that teachers would be more motivated for teaching if they would have the possibility to feel this activity as an identity trait, supposing that evaluation would be more motivated by teachers' internalized rules and valuing material rewards as good instruments for motivating the administrative tasks reduce the operational area of managers' intervention to several superficial and disconnected actions. Managers' awareness and supportive perception is needed to develop an authentic and integrative motivational process.

There are two ways our study expands knowledge on this issue: Firstly, while most studies investigate the teacher motivation from teacher perspective, this study contrasts these results with managers' perception. Secondly, our comparative analyses on projective motivation provide directions of enhancing teachers' motivation.

Our results suggest that managers should become aware of these differences in order to imply them in the determination of intrinsic teachers "motivation." Assuming the study's research design, we cannot conclude this claim in causal terms. Further studies based on experimental data are necessary to support the evidence of the results highlighted in this study. Similarly, extending the research question towards the teacher perception upon the motivational strategies used by their principals could be the next step to develop a motivational model providing empirical explanations and future successful interventions.

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## **Chapter 10 The importance of teacher training from the perspective of digital skills**

**Abstract** The value of digital competence increased during pandemic time and millions of people have been forced to work or learn from home, their communication and training done in online system. If the internet was celebrated because it sometimes maintains the normal life of individual and countries, the pandemic underline digital inequalities, the low level of digital competencies. The educational space was affected by this, and quality of entire system was influenced by the equipping schools for ICT communication and pre-service and in-service teacher training in the digitalization field. It is estimated that 43 % of the population from European Union does not have basic digital skills according to the Digital Economy and Society Index (DESI, 2020) and this means almost 200 million people who are at risk of digital exclusion in terms of works from home, access to information, in general, and distance learning, in special.

Our chapter wants to underline the nowadays challenge for entire society and educational system in terms of teacher training for develop digital competence of the teachers in the context of changing the traditional way of teaching, learning and assessment in the classroom. All educational policies must adapt these new realities and digitalization is a priority for public policies for all European countries.

**Keywords:** digital skills, teacher training, Romanian teachers, public policies, educational policies.

### **10.1. Introduction**

To effectively stimulate learning in students, teachers constantly build on a vast knowledge and work with knowledge. For example, math's teachers must have a good understanding of the mathematical content, and feel confident in using mathematical concepts, but their knowledge goes beyond that of a mathematician. They must mobilize the subject knowledge, transforming it into an engaging

and enriching teaching and learning experience. Going beyond subject-specific knowledge, teachers also must have a profound understanding of the learning process, of what students with their different talents and backgrounds can motivate and inspire. This type of knowledge – pedagogical knowledge – is unique to teaching. Efficiently teachers do not teach from a book, “applying” textbook knowledge. They do something far more challenging: integrating a body of knowledge into their teaching behavior and constantly mobilizing those bits and pieces of knowledge that can steer their professional practice towards the best possible learning experiences for their students. Only by understanding and valuing how this process happens, we will truly understand what it means to be a “good teacher” (Van Damme, 2017). In order to operate with information, it is very important for teachers to have digital skills to involve digital technologies in their own work, giving students an example of efficient use and usefulness in lifelong learning.

In this chapter, we want to draw attention to the imperative need for teacher training in terms of developing digital skills in the context of changing the traditional way of teaching, learning and assessment in the classroom. The low interest of the Ministry of Education and implicitly of the Romanian teachers towards their own digital competences is highlighted in the report on the training needs of teachers in primary and secondary education in the field of curricular empowerment which shows that only 4 % of the training courses organized by Houses of Teachers (Casa Corpului Didactic – CCD) in the period 2013–2018 aimed to develop digital skills (Horga, 2018). The pandemic has uncovered gaps in the Romanian educational system for which one of the solutions is the qualitative training of teachers. If we continue to neglect the issue of teacher training in digital skills, the whole education system will suffer and, as a result, the gaps in students’ access to quality education will deepen.

## **10.2. Digital education policies in Europe**

From a policy point of view, two key themes emerge strongly from the literature on factors associated with successful integration of digital technologies in education and training: the need for an overall policy vision for and leadership on educational innovation; and the role of policies supporting teachers. Contemporary digital education policies focus on the following key elements (Redecker, 2017): strategic and operational policy levels to be combined, improved infrastructure and teaching capacity as primary objectives, multiple pathways for supporting teachers, focus on innovative teaching and learning, stakeholder involvement in policy design, implementation and monitoring, using pilots to

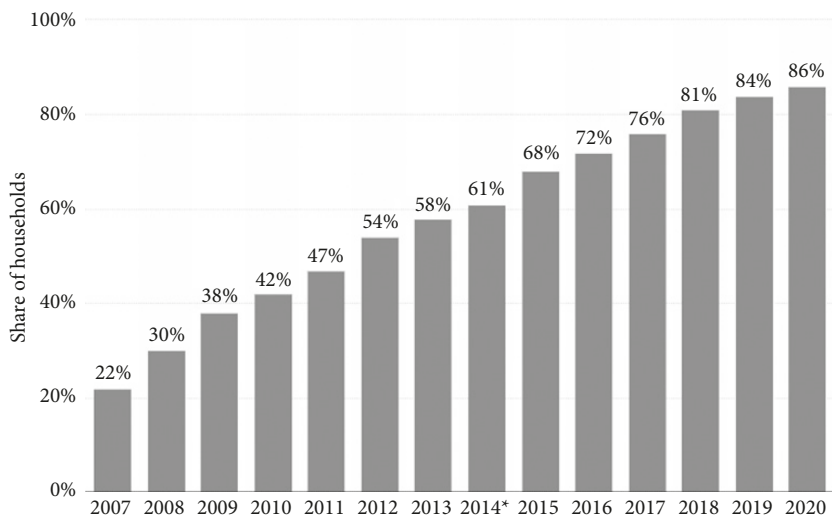
get ready for mainstreaming, evaluation and monitoring integrated into the policy design, different focus areas in primary, secondary and tertiary education.

Following a consultation of more than 2,700 contributors in the open public consultation on the digital education Action Plan, which took place from June 18 to September 4, 2020, the European Commission (Commission, 2020) identified two interrelated aspects to digital education to which the strategic priorities of this Action Plan will respond: firstly, the deployment of the vast and growing array of digital technologies (apps, platforms, software) to improve and extend education and training. A second key aspect of digital education is the need to equip all learners with digital competences (knowledge, skills and attitudes) to live, work, learn and thrive in a world increasingly mediated by digital technologies. Addressing these two aspects of digital education requires policies and actions on several fronts, including infrastructure, strategy and leadership, teacher skills, learner skills, content, curricula, assessment, and national legal frameworks. Strategic priorities in the mentioned Action Plan (Commission, 2020): (1) fostering the development of a high-performing digital education ecosystem, and (2) enhancing digital skills and competences for the digital transformation. In the Action Plan is also mentioned practical actions to be implemented in the European education, which, for reasons of economy, we will not list here. A central theme in all governments. this pandemic year, has become the digitalization with academics and practitioners aware that is can "aggravate existing socio-economic inequalities"(OECD, 2019). Digital skills have become a practical need, not just a social policy in the last year, 2020, because of the impact of pandemic year (EU Social Commission, 2020). Digital competence has become a facilitator for re-employment (Peng, 2017) and at the same time considered essential skills of our century (Van Laar et al., 2017). Automation and certain jobs are on the rise, so digital skills are a barrier against the movement of workers (Frey, 2019). In this regard, governments influenced the business community have called for commitments to address the growing need for digital skills (Europe, 2020).

In the European Union report, the need for the use of technology in school and the development of digital skills for teacher and students have been emphasized. Teachers require high level of digital competence because all young people develop their digital skills in school and, thus, benefit through the way in which the educational process can be achieved.

### 10.2.1. Context: The advance of digitalization and internet penetration rate in Romania

Romania's internet penetration rate has been increasing, both in terms of access and in terms of use, reaching a rate of 80 % internet penetration by January 2020 (Hootsuite & Social, 2019). Additionally, the 2018 Digital Economy and Society Index (DESI) score for Romanian internet users shows a growth in penetration rates in the last five years (DESI, 2018a, 2018b). Scores are shown from a minimum of 0 to a maximum of 100 and on this chart the scores are represented by the line. As illustrated below, having access to the internet does not necessarily equate with using the internet. See Fig. 1:



**Fig. 1.** Internet penetration in Romania from 2007 to 2020 (Statistica, 2021)

The digitization process in Romanian schools has been a gradual one. In 2001, a government program called Computerized Educational System [Sistemul Educațional Informatizat (SEI)] was launched with the objective of computerizing the Romanian education system. The inter-county differences in Romania's school digitalization processes are closely related to regional development and GDP per capita between counties. In order to address these discrepancies, the RO-NET project (MCSI) was launched in 2011 with the aim of building a national broadband infrastructure in socio-economically disadvantaged areas by

using structural funds. Eurostat (2020) from different regions show a negative correlation between GDP per capita/counties and digitalization process, except for in the west of the country (where GDP per capita is €10,800) and in the north-west (where GDP per capita is €9,800): together they sum up a number of 128 localities who benefit the most from broadband internet. In the poorest region of Romania (the northeast according to Eurostat 2018, where GDP per capita is €6,600), 115 localities benefit from broadband internet. In the richest region, Bucharest-Ilfov according to Eurostat 2018 (where GDP per capita is €24,000), a smaller number of localities benefit from broadband internet (i.e., 84). In 2005, according to the Bologna Process, it was compulsory to include a special course for ICT in education in pre-service teacher training. With increasing access to computers and the internet, teachers began to take advantage of technology to encourage students to learn; however, computer science, as a subject, became mandatory only in 2017, based on an order issued by the Minister of National Education (Ministerul Educației Naționale – MEN) no. 3393 / 02.28.2017.

Digital training programs for Romanian teachers started with the Rural Education Project (Proiectul pentru Învățământul Rural – PIR) financed by a World Bank loan and implemented between 2003 and 2009 (MEC, 2003–2009) and ended with a recent project called Relevant Curriculum, Education Open to All (Curriculum Relevant, Educație deschisă pentru toți – CRED) financed from the European Social Fund through the Human Capital Operational Program 2014–2020 and implemented between 2017 and 2021 (MEC, 2017–2021).

In summary, in Romania, there are some present initiatives in place for in-service teacher training in the special and highly current areas of introduction of digital tools in education and increasing the digital competences of Romanian teachers. However, the quality of the courses and the relevance of the skills acquired need to be monitored more closely.

### **10.3. Teachers as digital immigrants**

Digital abilities are classified, by Van Deursen and Van Dijk (2011), as operational abilities (i.e., operating hardware, software, and networks); formal abilities (i.e., understanding and managing formal characteristics of a computer and a network, as well as their structures: files and hyperlinks); informational abilities (i.e., searching, selecting processing, and evaluating information from specific sources on computers and networks); and strategic abilities (i.e., using the aforementioned information as a way to achieve specific objectives for improving someone's social position).

Teachers can be understood as “digital immigrants” in that they only learn about ICT tools, but do not necessarily immerse or live with a positive attitude about new technologies (Prensky, 2001). Education cannot ignore the rapid and far-reaching development of technology and its applications. In practice, this presents a real challenge because ICT is involved across the entire education system: from organizational change (e.g., time and place for independent or collaborative learning, tailored instruction) to means of delivering educational content (Heitink et al., 2016).

For teachers, using ICT in their professional practice can be considered an efficient and effective means of facilitating access, storage, transmission, and manipulation of different information sources and content via audio and video, because of its capacity to establish a proactive teaching and learning environment. The education community is currently fundamentally affected by the impact of a new, pressing need for communication and informational technologies which are more and more integrated into pedagogical practices and methods, allowing for the consideration of new directions, improvements, or even transformations (Ali, 2020). Indeed, ICT in education can be used for a wide range of different purposes, such as active teaching and learning through students’ involvement (Ghavifekr & Quan, 2020), or helping in lesson planning or the daily life of teachers (Yevelson-Shorsher & Bronstein, 2018).

### **10.3.1. The relevance of teachers perceived and actual digital skills for student achievement via online education**

Students’ academic results are dependent on contextual factors: educational materials, the educational and cultural background of student’s family, how students spend their free time, and other psycho-climatic factors. It is almost self-evident that the effectiveness of online education is dependent to a significant extent on teachers’ digital competencies. Innovative teaching using ICT requires much more than basic ICT skills. Teachers have the power to transform ICT in learning and communication technology (LCT) but, for this, both teachers and their students must first realize the potential of ICT to impact learning and to transform education (Napal-Fraile et al., 2018).

Uhomoibhi (2006) highlighted the importance of teachers’ digital competencies, computer provisions, and electronic devices in online education, arguing that ICT is facilitating the establishment of a skilled community and workforce for a knowledge society (Uhomoibhi, 2006). Røkenes and Krumsvik (2014) reviewed a vast number of studies on teachers’ use of ICT in the classroom, revealing that the effectiveness of implementing ICT in schools may partly rely



on students' digital competence (Mata et al., 2021; Mueller et al., 2011; Røkenes & Krumsvik, 2014) as well as on how effectively teachers are able to implement and use ICT for teaching and learning. Indeed, strong correlations have been found between teachers' digital competence and students' subject learning outcomes in Norwegian secondary schools (Røkenes & Krumsvik, 2014). ICT in education can be used for a range of different purposes, such as active teaching and learning through students' involvement (Ghavifekr & Quan, 2020), improving students' understanding of key concepts or developing content knowledge and specific abilities, as well as a correlating improvement in their learning results (Furman et al., 2019).

### **10.3.2. The importance of teachers' attitudes towards ICT and perceived ICT skills**

Regarding technology adoption in the classroom, there are studies which have shown that the successful implementation of educational technologies depends on the attitudes of educators towards ICT, who, eventually, determine how they are used in their teaching practice (Bullock, 2004; Govender & Govender, 2009). In this context, teachers' perceived ICT competences play a significant role. Sa'ari et al. (2005) highlighted that educators' attitudes towards computer technologies are also related to their perceived computer competence. Furthermore, teachers' perceived digital competence is a significant predictor of their attitudes towards computers (Berner, 2003). In the same way, research by Al-Oteawi (2002) illustrated how many educators whose perceived computer competence was low also showed negative or neutral attitudes towards the use of ICT in education in general. Moreover, it has been found that the more highly teachers rate their own digital competence, the more likely they are to use ICT in their work (Sundqvist et al., 2020), as illustrated by Malaysian teachers whose digital competency and confidence level in using ICT are in a positive relationship (Tasir et al., 2012). However, in other studies, the limitations in teachers' ICT knowledge is reported in making them feel anxious about using ICT in the classroom and, thus, not confident in using it in their teaching (Balanskat et al., 2006), namely in front of a class of children who perhaps are more digitally literate than they are (Becta, 2004). Having this in mind, teachers who are not confident in using ICT in their teaching will encounter difficulties in preparing their students to be confident in the use of ICT for themselves Pavić & Černja, 2019; Starčič et al., 2016).

Maderick et al. (2016)'s review shows that the expertise on the material being tested; the level of difficulty of the material; the specificity of the ability being evaluated; how desirable the particular skill or ability is; gender differences;

possible cultural differences; individual differences in ability, are the main factors that lead to erroneous estimation of one's abilities. It has also been suggested that individuals with low levels of expertise or training will tend to overestimate their knowledge and skills in their given domain, simply because they are unaware of their own level of competence (Maderick et al., 2016). This may apply to digital competencies as well: Individuals who do not have or do not know the level of their own digital knowledge and skills may tend to overestimate or underestimate the level of their own digital skills. In contrast, Pavić and Černja (2019) found that those who have a low level of digital skills are aware of this and do not exaggerate their self-assessment as much as those who are aware of possessing a higher level of digital skills: this comparative lack of false claims is possibly to do with having a high level of motivation and dedication to learning how to improve.

However, in existing research, any form of subjective self-assessment, when compared with more objective methods, tends to demonstrate some degree of inaccuracy (Maderick et al., 2016); but, if considered in conjunction with other, more objective means, self-assessment may prove to be useful for teachers in reflecting upon their competence, skills, and knowledge, therefore, aiding them in adjusting their perceptions and attitudes regarding technology throughout the course of their professional practice (Huang & Liang, 2015; Maderick et al., 2016). For example, in Khokhar and Javaid (2016)'s study, while the surveyed teachers believed that they were using ICT effectively, their students reported that their ICT use was not creative or innovative, and instead wanted them to create authentic teaching and learning classroom experiences. These students' wishes are an important source of guidance because it has been found that their perceived digital competence and attitudes towards using digital technologies significantly and positively influence their engagement in the learning process (Huang & Liang, 2015).

#### **10.4. Discussions and conclusions**

In order for the Romanian educational system to perform, it is necessary to include digital methods both in the effective teaching in the classroom, and in the management. As well as in monitoring and evaluation of the subjects included in the system (students, teachers, principals, etc.). Thus, it is necessary to develop and use educational platforms at local, regional and national level, initial teacher training from a digital teaching point of view, continuing education courses and permanent monitoring of teachers' digital skills. In order to identify the problems and the solutions, it is necessary evaluating the results of

teachers work by pre-established criteria. Thus, the punctual intervention will be easier to quantify from the point of view of the efficiency of an intervention.

In order to avoid the overestimation or underestimation of teacher's own digital skills, it is necessary to cultivate a mentality of personal and professional growth both individually and collectively. Promoting a reality-based mentality will lead to realistic solutions to educational problems, but also to the development of trust in teachers and other authorities who have influence in leading the socio-educational progress of a community.

Researchers concerned about the situation of the Romanian educational system conducted studies, prepared reports on the situation of access to ICT devices by students and teachers and of the teachers training to face the challenge of online teaching during the pandemic. Some of them even recommended possible public policies in the Romanian education system (Ayllón et al., 2021; etc.; Botnariuc, 2020; Florian & Țoc, 2020; IRES, 2020; Onete et al., 2020; Velicu, 2020, 2021a, 2021b).

Thus, in order for change to take place in the Romanian educational system, it is necessary for each of us (students, teachers, principals, etc.) to be aware and accept when we have a problem and initiate its solution, practicing healthy relationships with responsible people and getting involved in the solution activities initiated by them. The continuous struggle between subordinates and managers will only lead to inefficiency of activities and poor results of the educational system for which no one takes responsibility.

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